Diet Atlas of India

C. GOPALAN
S. C. BALASUBRAMANIAN
B. V. RAMA SASTRI
K. VISWESWARA RAO

NATIONAL INSTITUTE OF NUTRITION
INDIAN COUNCIL OF MEDICAL RESEARCH
HYDERABAD, INDIA.

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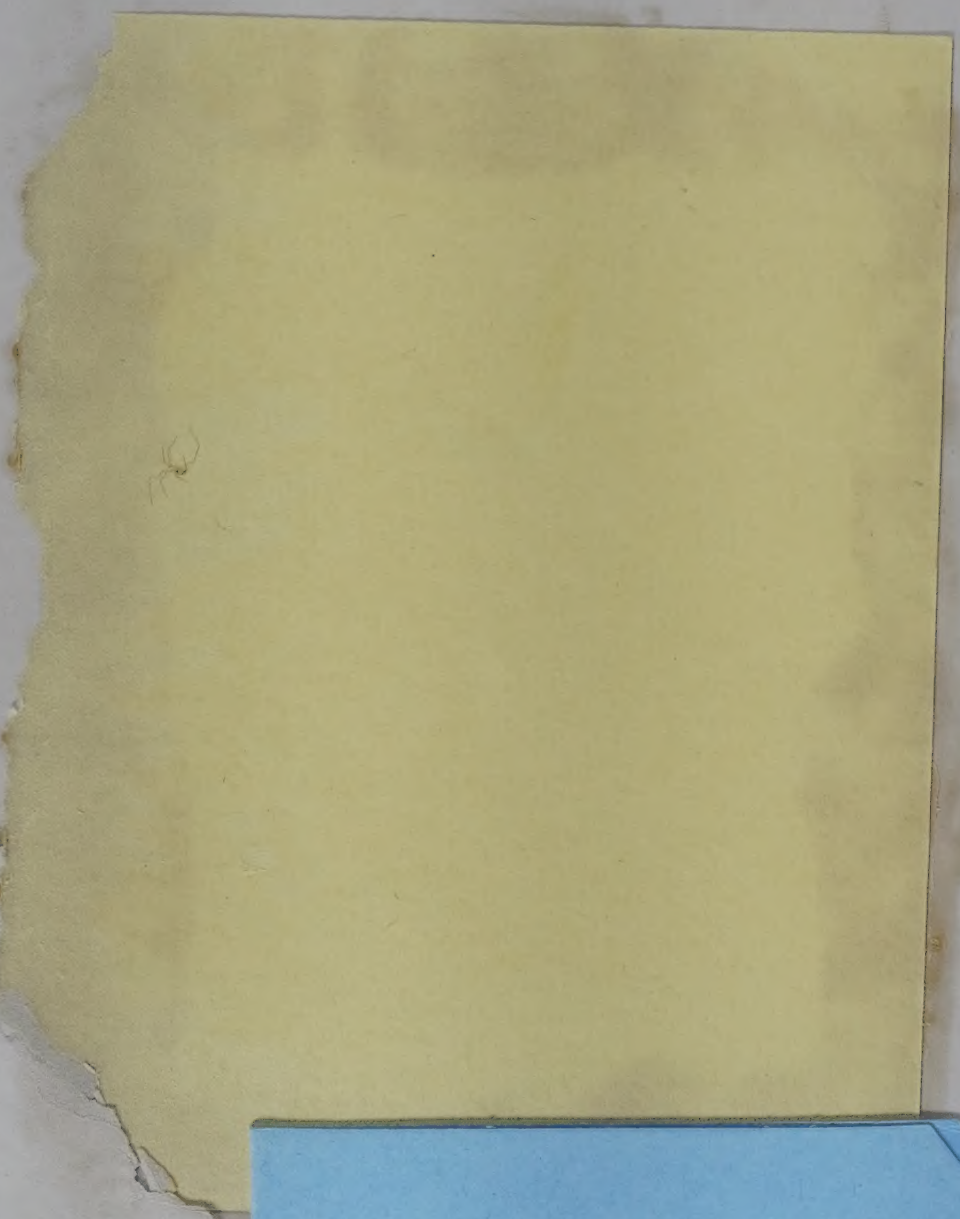

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COMMUNITY HEALTH CELL
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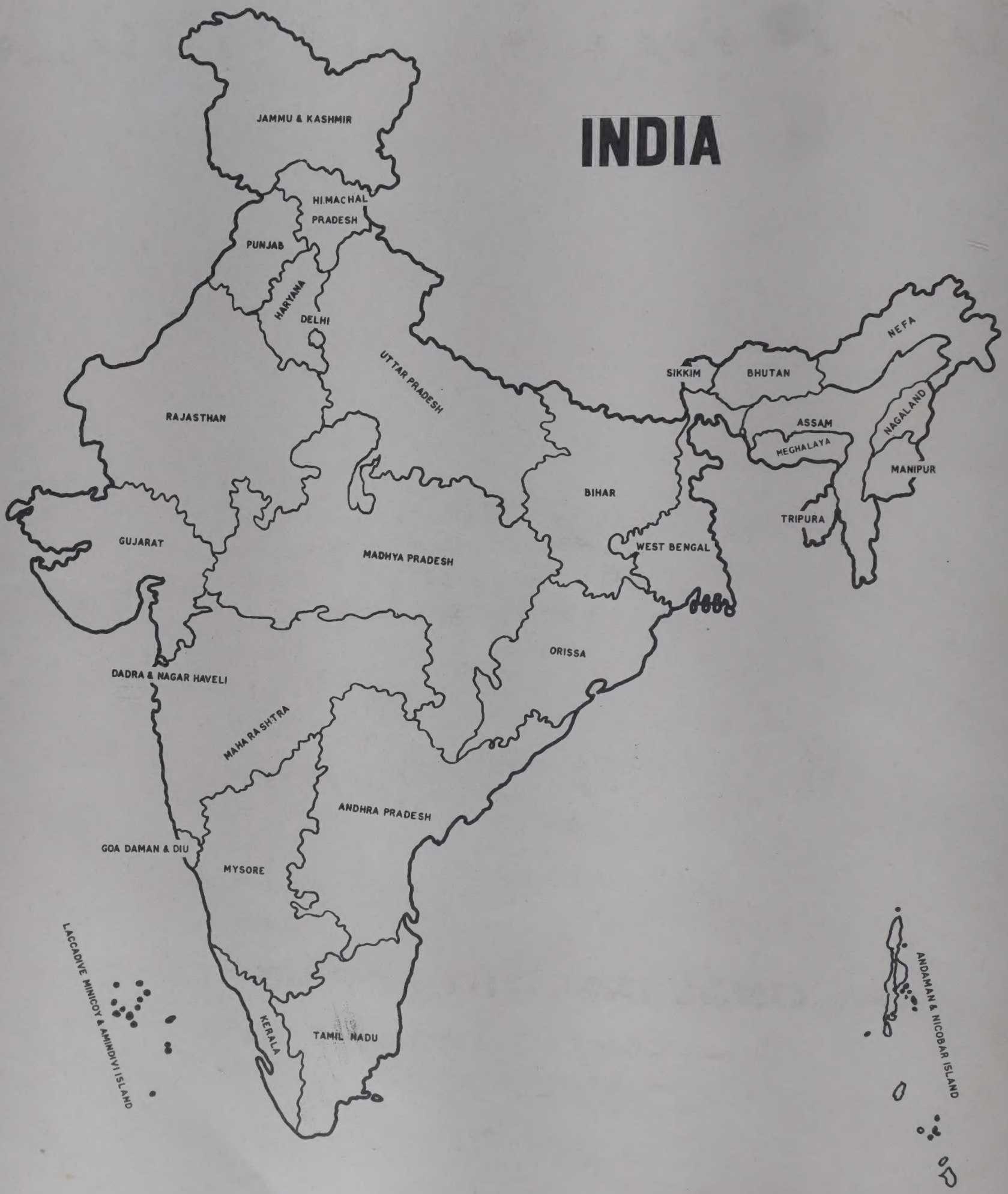
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COMMUNITY HEALTH CELL
47/1, (First Floor) St. Marks Road,
Bangalore - 560 001.

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research,
HYDERABAD - India
1971

Copies can be had from :-

National Institute of Nutrition
Hyderabad – 7, A.P.

Indian Council of Medical Research
Ansari Nagar, New Delhi – 16.

NUT – 110
132

Printed at Kamal Printers, Hyderabad-20.

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PREFACE

It is one of the avowed objectives of a Welfare State to ensure satisfactory nutrition for its people. In order to achieve this objective, up-to-date data on the existing patterns of diets consumed by our people are necessary.

Often, administrators concerned with laying down of policies for food production are in need of ready reference material providing data on current dietaries of the people. This book is brought out to meet this need.

Over the past several years, the National Institute of Nutrition, Hyderabad, has collected valuable data on the nutritive quality of diets consumed in various regions of our country by different segments of the population. The Nutrition Directorates in the Departments of Public Health in the various States have also been regularly collecting data on the dietary intakes of various population groups. National Sample Survey and other national and international agencies have also collected valuable information on many related areas. This Atlas serves to bring together information collected by these various agencies.

The salient features of the diets obtaining in our country are presented in several parts. In the first part, information on the population of India and food production in comparison with our requirements is presented. In the second part, the pattern of diets in the different regions and data on food economics are indicated.

In view of the urgent need to draw up special nutritional programmes for the benefit of the vulnerable groups, the third Section is devoted to dealing with the diets of special groups of population. In this Section will be found information on

the diets of preschool children, school children, pregnant and nursing women, tribal population groups, industrial workers and diets in special situations like droughts and famines. With the emphasis on family planning as an important tool in the fight against malnutrition in many developing countries, data on the relationship between family planning and better nutrition are also highlighted in this section.

For the interested reader requiring more detailed information and data, there is an appendix containing tables providing detailed information, which form the basis of the charts and diagrams appearing in the earlier parts of the Atlas.

It is hoped that the present publication will help to highlight the areas which call for special attention and thus help to stimulate institution of programmes specially geared to meet these needs. Especially with the increasing emphasis being given in the Fourth Five Year Plan for special nutrition programmes for the vulnerable segments of population like preschool children, tribal groups and slum-dwellers such data will be found useful.

In presenting these data, the authors are aware of the paucity of authentic and recent information under several heads; however, to the extent possible, the data have been brought up-to-date.

Hyderabad
October 1971

C. Gopalan
S.C. Balasubramanian
B.V. Rama Sastri
K. Visweswara Rao

DIETS IN INDIA

POPULATION OF INDIA

India is the second largest populated country in the world. Though India constitutes only about 2.4% of the world's land area, about 15% of the world's population live here.

According to the latest census (1971), the total population of India is 547 millions, with a density of about 182 persons per square kilometer. The State of Kerala has the highest density (548 per square kilometer) and Jammu & Kashmir the lowest (21 per square kilometer).

The total land area in India is about 326.8 million hectares. Out of this, the total land available for cultivation is 180 million hectares. The rest of the land comprises of forests, mountains, barren land and land used for non-agricultural purposes.

The land actually under cultivation has been estimated at about 0.25 hectare per caput.

(See tables I and II)

POPULATION OF INDIA 1971

5 MILLION PERSONS

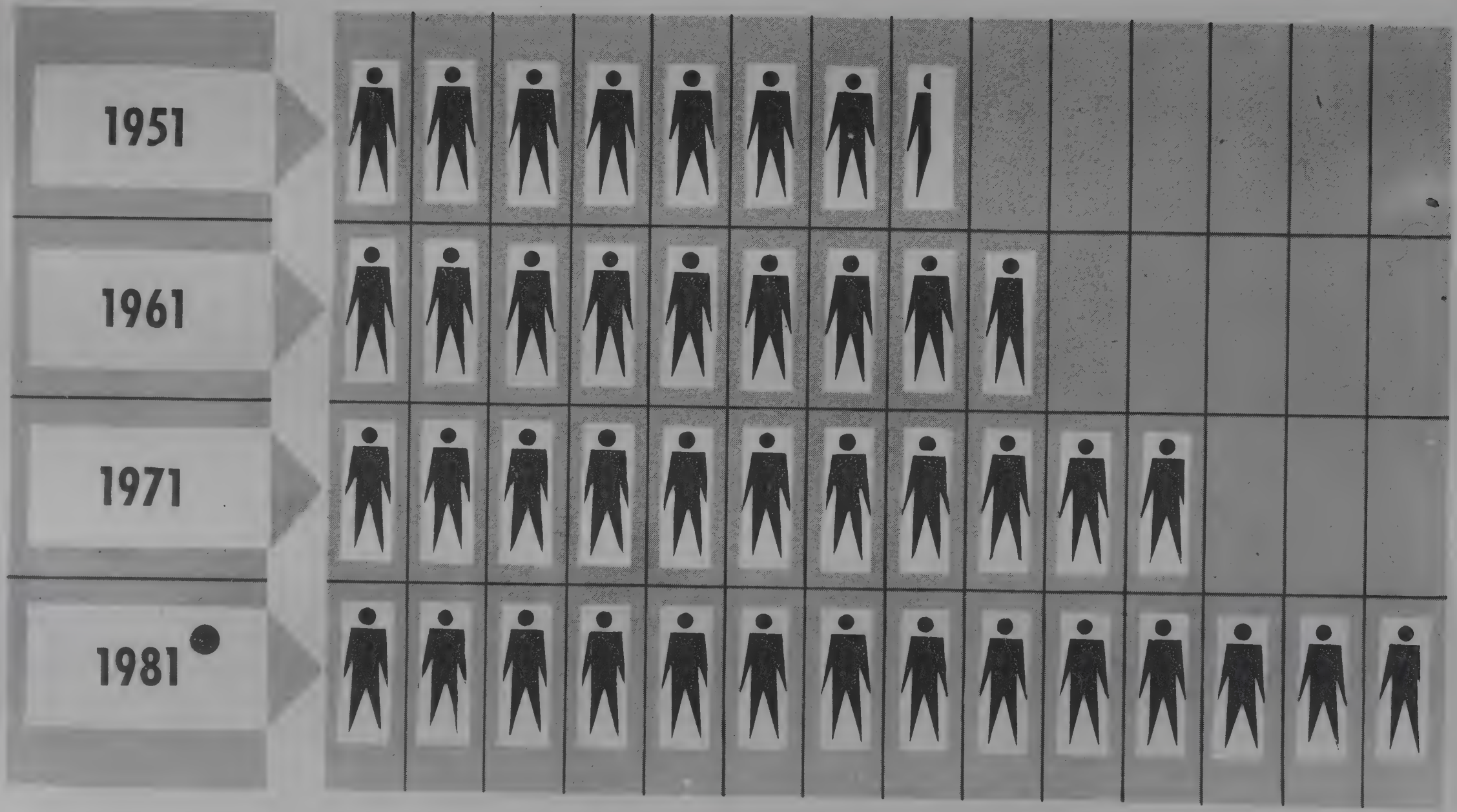
GROWTH OF POPULATION IN INDIA

The population of India increased only by about 5.4% between 1901 and 1921. The increase was nearly 30% during the period 1921 and 1951 and it was 52% between 1951 and 1971. The overall increase in population during the last 50 years is nearly 120%.

The present rate of increase in India's population is about 2.5% or 14 millions per year. As a result, the density of population has increased considerably from 138 per square kilometer in 1961 to 182 in 1971.

(See table III)

GROWTH OF POPULATION IN INDIA



PRODUCTION OF FOODSTUFFS IN INDIA

The present production of foodgrains in India is about 100 million metric tons per year, cereals and millets constituting nearly 90% of the total production.

Among the cereals, rice forms the largest single crop constituting 45% of the cereal production; and this is followed by wheat (23%) and other millets.

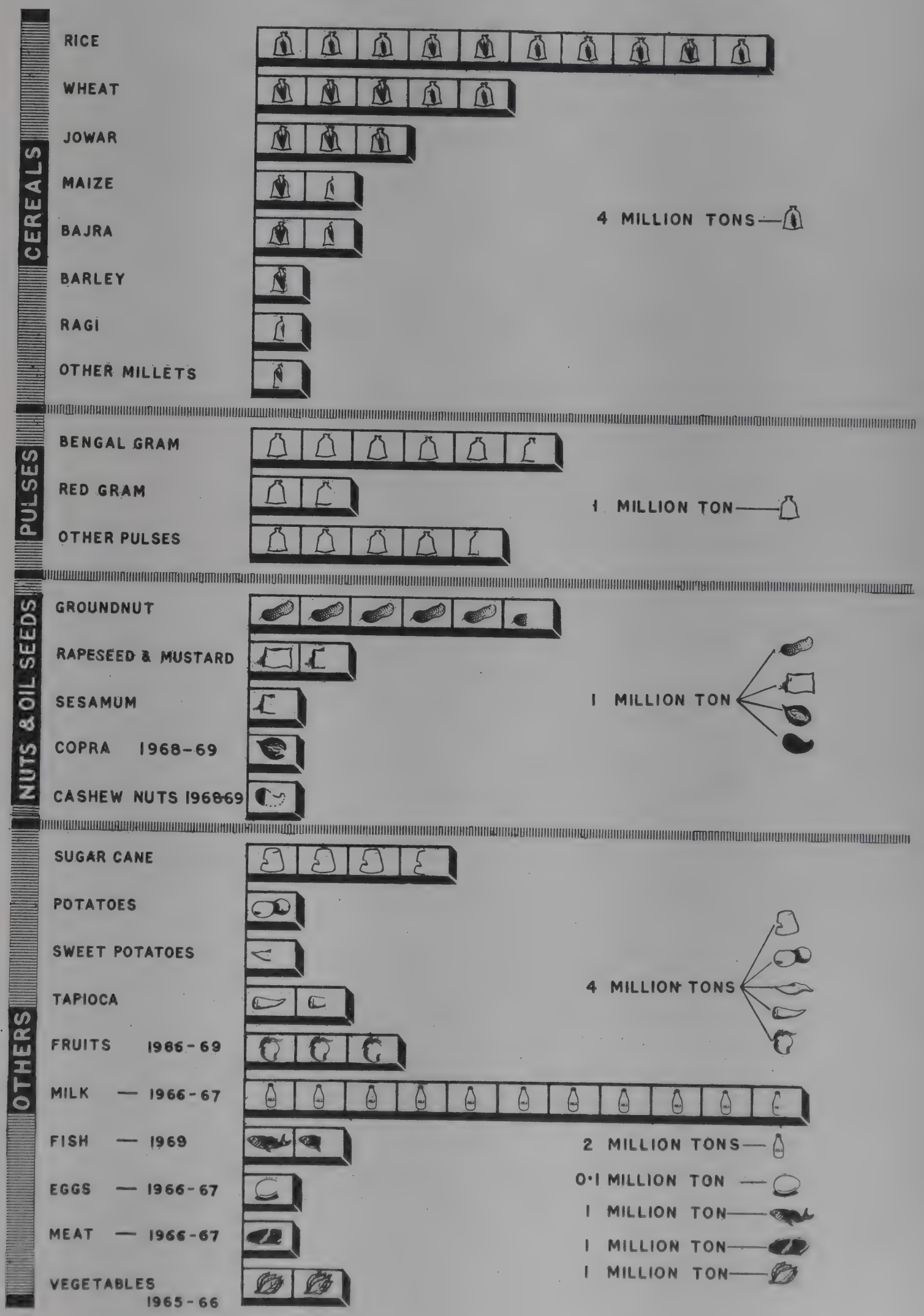
Among the pulses, Bengal gram forms nearly 50% of the total production.

Groundnut is the major oilseed crop produced in India with a total production far exceeding the combined production of all the other oilseeds.

The production of other foods like flesh foods, milk, fruits and vegetables is rather small for a country with the size and population as of India.

(See table IV)

PRODUCTION OF FOODSTUFFS IN INDIA (1970)



TRENDS IN FOOD PRODUCTION

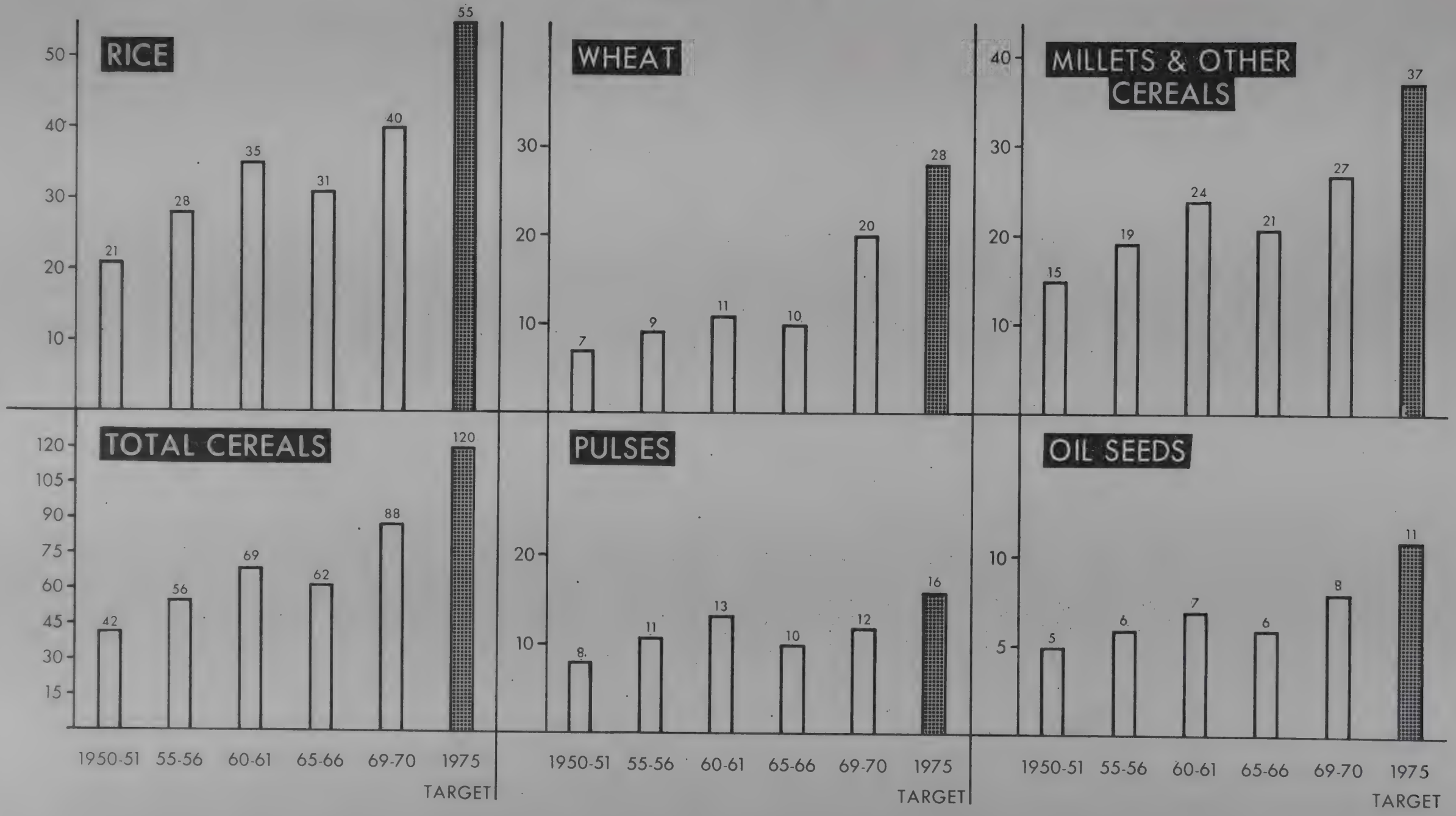
For a population to be adequately fed, the agricultural production should keep pace with the needs of the growing population. During the last two decades there has been considerable increase in food production, the annual increase being of the order of 3 to 4%.

Though the cereal production increased considerably, the production of protein rich foods like pulses and oilseeds did not increase sufficiently enough to satisfy the nutritional needs of the population.

(See table V)

TRENDS IN FOOD PRODUCTION IN INDIA

MILLION TONS



TRENDS IN FOOD PRODUCTION
(per caput per day)

Although there has been an appreciable increase in the total production of foodgrains in the country, the benefits of the increased production appear to have been nullified to a large extent by a concomitant rise in the population. During the past two decades, the per caput production of oilseeds has remained almost stationary while that of pulses has, in fact, declined.

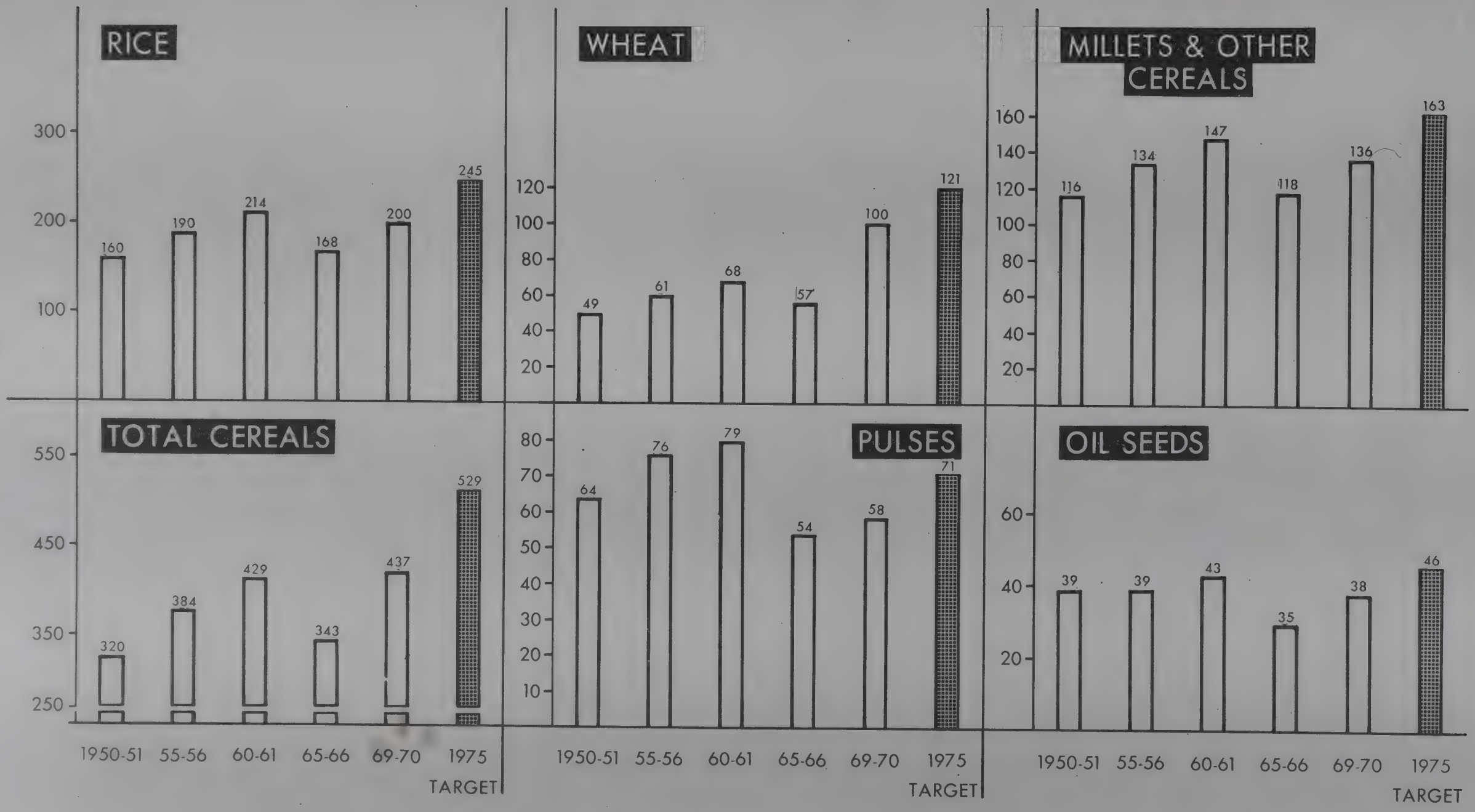
However, the benefits of the green revolution seem to have had a good effect on the production of cereals. The per caput production of wheat has almost doubled during the last two decades, and production of rice also has increased.

With increased agricultural inputs and use of improved methods of cultivation, the production of foodgrains and oilseeds can be expected to increase to keep pace with the needs of the growing population.

(See table V)

PER CAPUT FOOD PRODUCTION

PER DAY (g.)



FOOD AVAILABLE FOR CONSUMPTION (1970)

Average daily availability of foodstuffs per person

The Nutrition Expert Group of the Indian Council of Medical Research recommended in 1968 typical balanced diets for persons of different age and sex groups and with varying degrees of physical activity. Taking into account the distribution of persons of different age and sex in the Indian population, a typical balanced diet for an average Indian can be worked out.

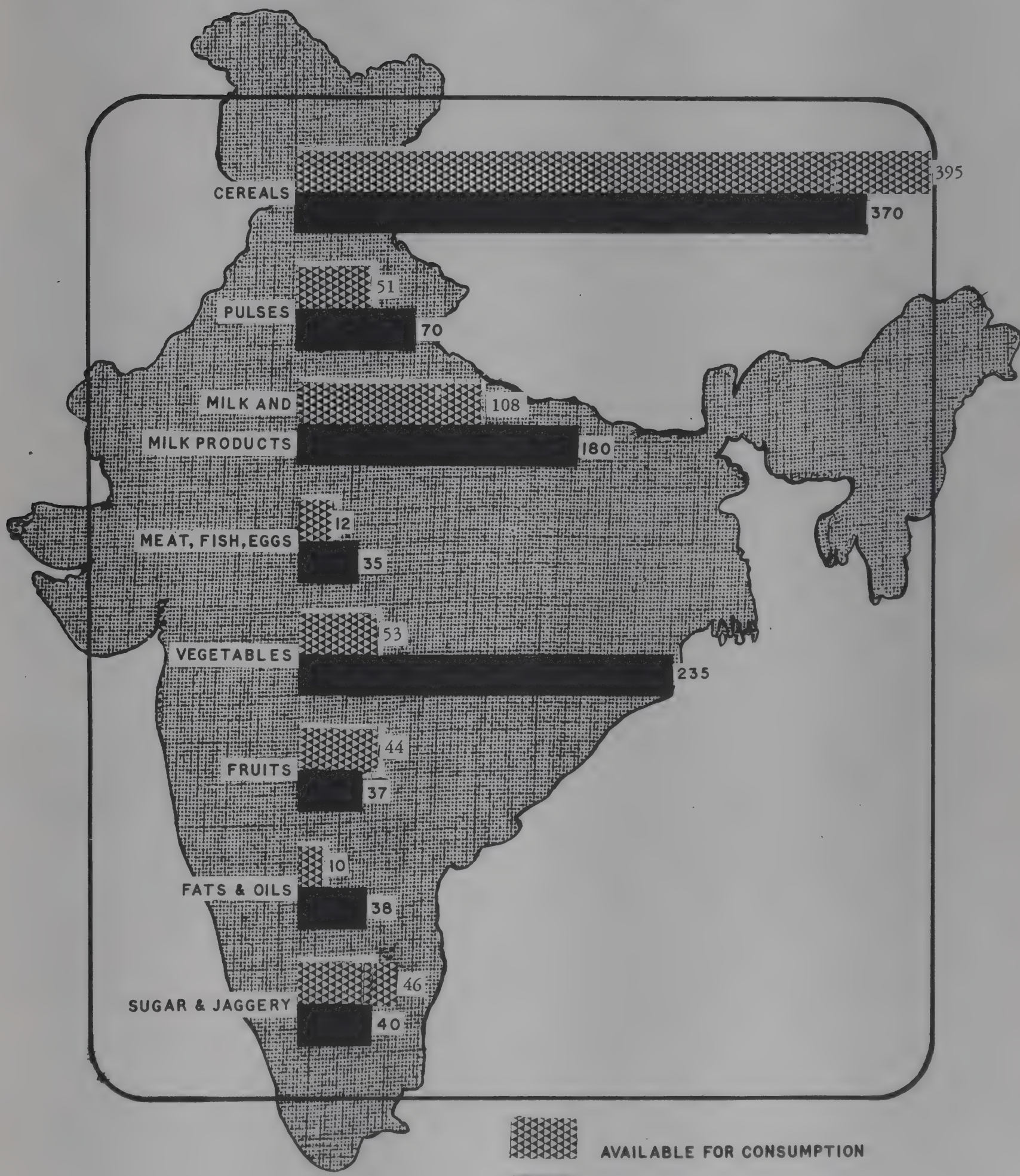
Out of the foodstuffs produced in the country, some are set apart for seeds and for consumption by livestock and some may be exported. Some foodstuffs are also imported. The net food available for consumption by the population can be calculated if the figures for production and imports and exports are known.

In the opposite page, the average quantity of foodstuffs available per person per day is compared with the balanced diet required by a person on average. The figures relate to the year 1970. These are average figures for the whole country. It must be appreciated that imbalances in the foods available in different regions and among different groups can exist.

Viewed from the nutritional standpoint, the need for increased production of protective foods such as milk, flesh foods, pulses and vegetables will be apparent.

(See table VI)

AVERAGE DAILY PER CAPITA AVAILABILITY OF FOODSTUFFS (1970)



FIGURES ROUNDED TO THE NEAREST GRAM

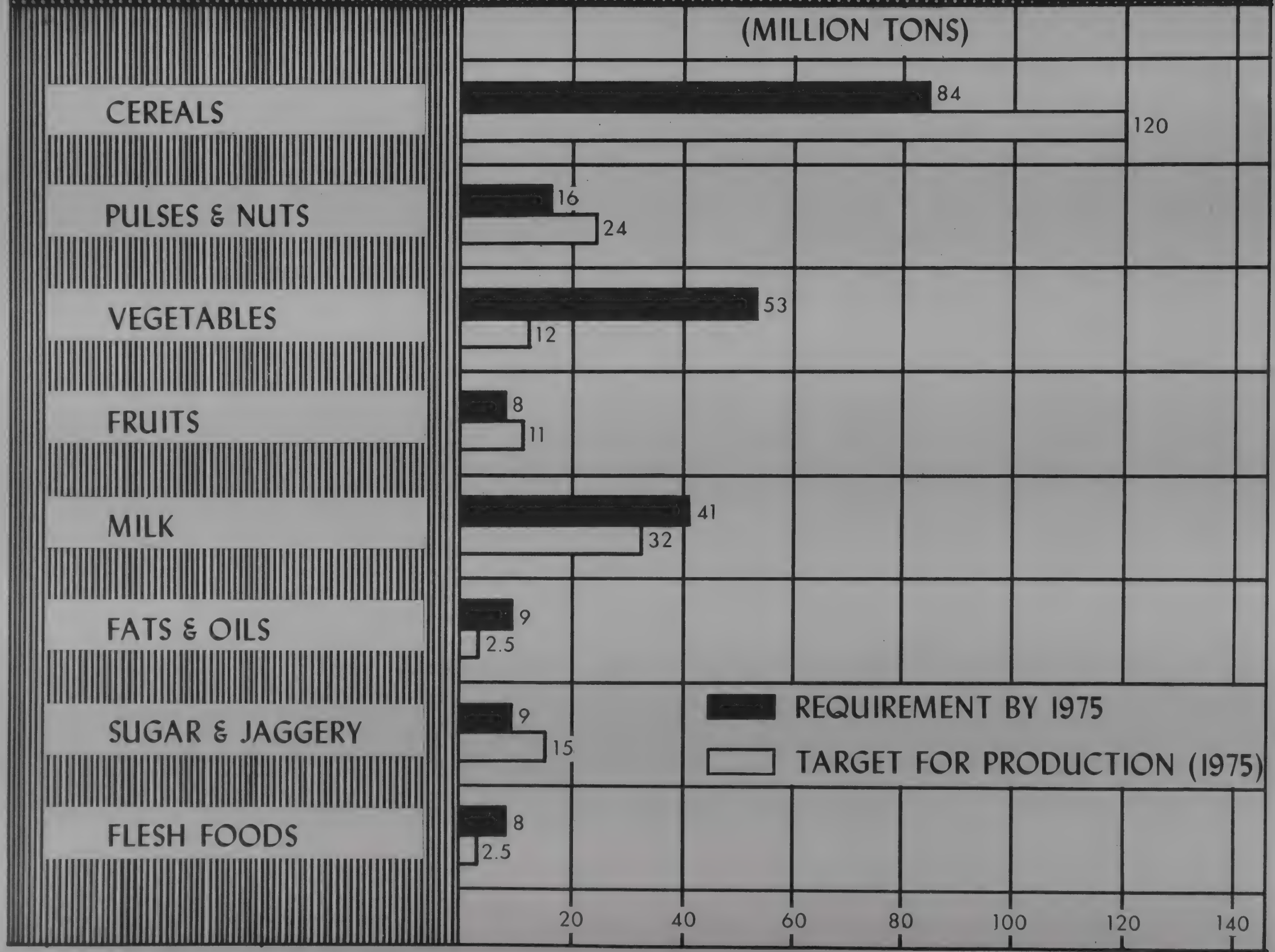
OUR FOOD NEEDS AND TARGETS

The Nutrition Expert Group of the Indian Council of Medical Research met in 1968 and recommended typical balanced diets for different segments of the population like women and children and for persons with varying degrees of activity like those doing moderate work and heavy work. Data on the distribution of population in India according to degrees of activity are not readily available. However, assuming that the adult population is likely to be equally distributed among the sedentary, moderately active and heavily active groups and taking into account the age and sex composition of the projected population in 1975, information on the food we need and the food we expect to produce in 1975 is presented in the opposite chart.

This will give an idea of the targets for food production in the coming years. It would appear that while the emphasis on the increased production of cereals, pulses, oilseeds and nuts would have to be continued, a concerted drive would appear to be necessary in the matter of increasing the supplies of protective foods like milk, flesh foods and vegetables. This is particularly necessary since the proportion of population in the younger age groups would increase in the coming years and the need for increased supply of protective foods would be all the more.

(See table VII)

OUR FOOD NEEDS AND TARGETS 1975



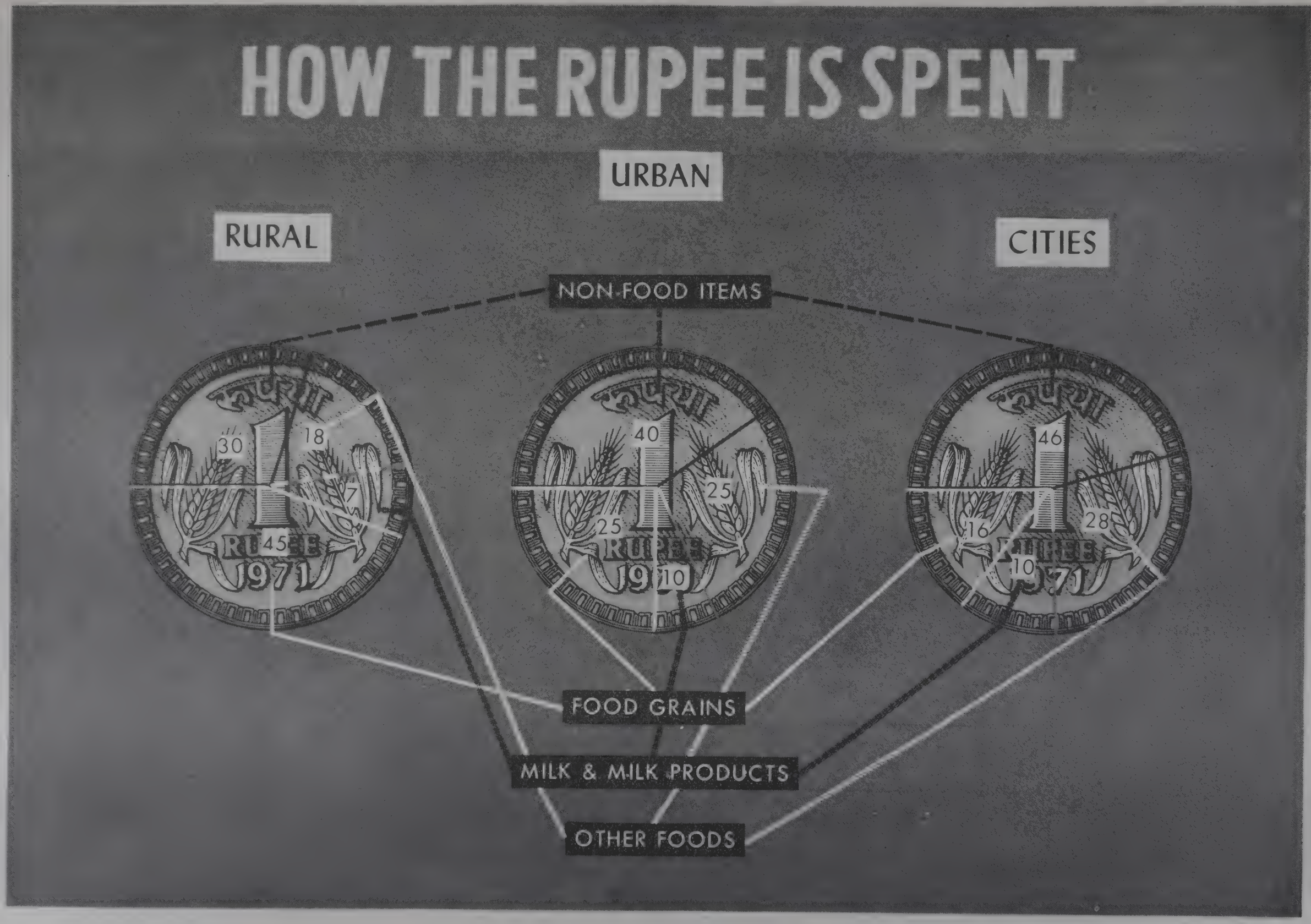
HOW THE RUPEE IS SPENT

The expenditure on food forms 60-70 per cent of the total monthly expenditure of an average Indian. The city dweller spends less on food than the rural dweller because expenditure on non-food items such as housing, transport, education and recreation is higher in urban areas.

On an average 25 per cent of the monthly expenditure is on foodgrains, about 10 per cent on milk and 26 per cent on other foods for the city dweller. For the rural dweller, however, 45 per cent of the expenditure is on foodgrains, 7 per cent on milk and 18 per cent on other foods.

(See table VIII)

HOW THE RUPEE IS SPENT



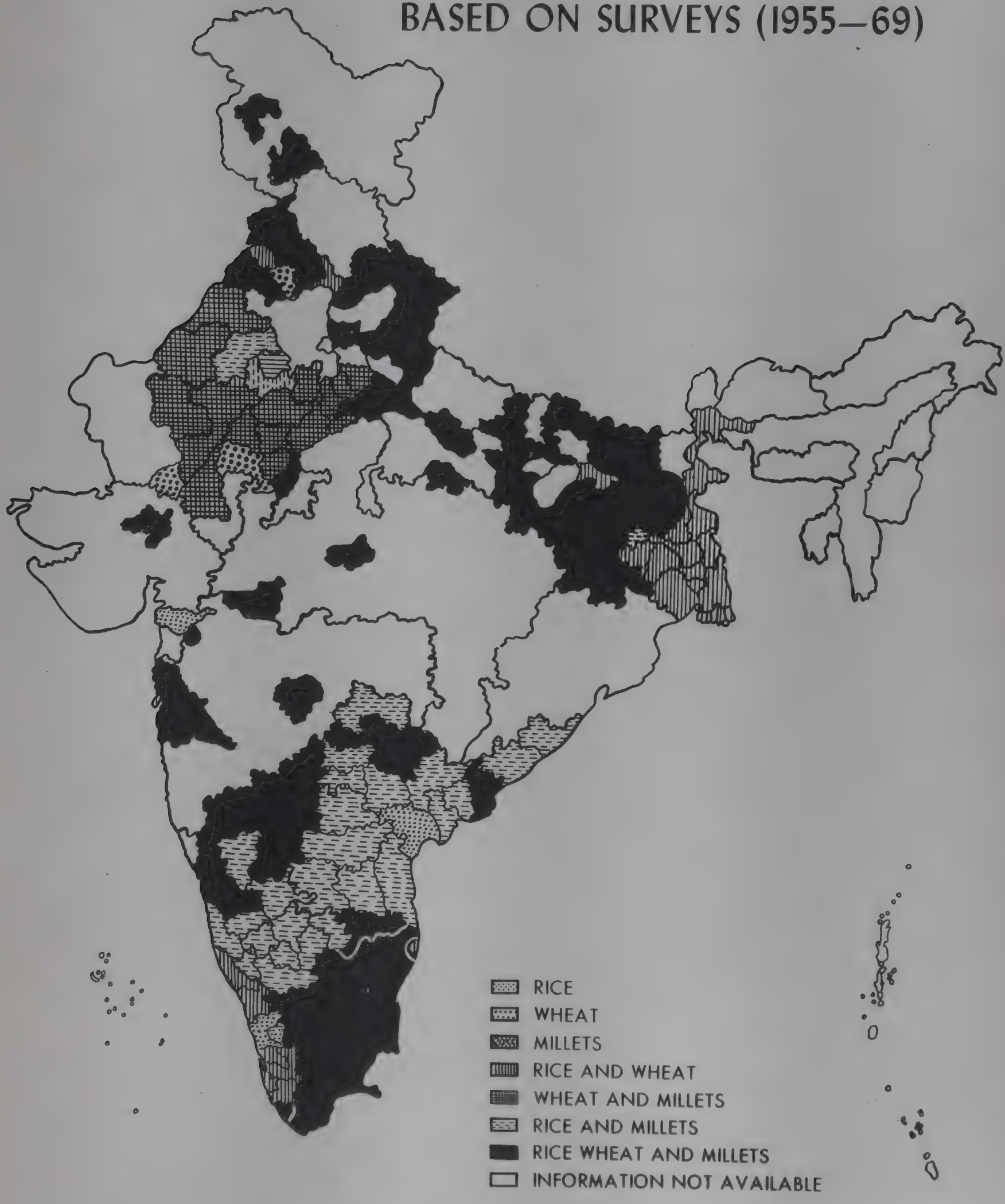
PATTERN OF CEREAL CONSUMPTION

Cereals such as rice and wheat or millets such as jowar and bajra occupy a predominant position in the Indian diet. A study of the Diet Survey Records reveals that in many areas, the diet is based not on one cereal but on a mixture of cereals and millets. A mixed cereal diet is nutritionally more beneficial than a single cereal diet.

There appears to be a trend towards mixed cereal consumption in many parts of the country.

(See table IX)

PATTERN OF CEREAL CONSUMPTION
BASED ON SURVEYS (1955—69)



DIETS IN DIFFERENT STATES OF INDIA

WHAT THE NATION SPENDS ON FOOD

Data on expenditure on food and other items are regularly collected by the National Sample Survey from various parts of the country. The latest available data relates to the information collected in 1963-64 from a number of households in rural and urban areas and cities.

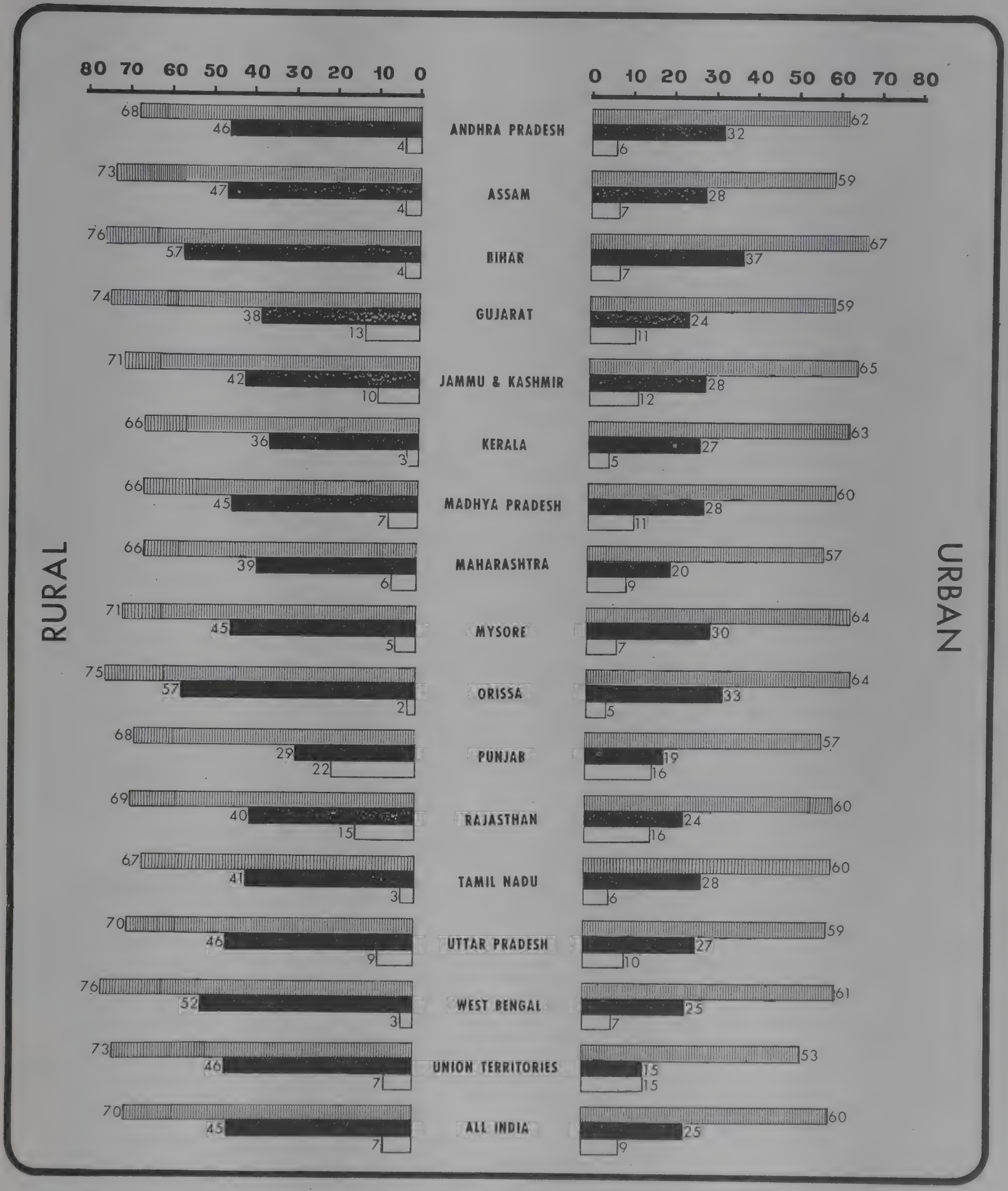
It was found that in urban areas, the average monthly expenditure on food during the year 1963-64 was Rs.19-65 per person. On non-food items, the expenditure was Rs.13-31. In rural areas, the corresponding figures were Rs.15-67 and Rs.6-64 respectively.

The expenditure on food is given here as a percentage of the total monthly expenditure. The percentage of expenditure on milk and milk products and foodgrains is also shown in the same chart.

In general, a large proportion of the monthly expenditure in rural areas is on food compared to the urban areas. The expenditure on foodgrains forms a good proportion of the total expenditure on food in most States. Compared to the other States, in Punjab and Rajasthan a higher percentage is spent on milk and milk products.

(See table X)

WHAT THE NATION SPENDS ON FOOD



EXPENDITURE PER CENT ON TOTAL FOOD AS PER CENT OF TOTAL MONTHLY EXPENDITURE

" " FOOD GRAINS "

" " MILK & MILK PRODUCTS "

DIET SURVEYS

Diet surveys, periodically carried out by accepted techniques, give valuable information on the patterns of diet in the different regions and in different population groups. This information will be useful in assessing how far the existing diets are satisfactory, and the basic causes of inadequacy.

The unit for the survey may be a family, an individual or a residential institution, and the accepted techniques of diet survey are pictorially represented in the opposite page.

The National Institute of Nutrition, Hyderabad, and the Nutrition Sections of the Departments of Public Health in State Governments regularly carry out diet surveys. The data collected by these agencies are compiled and published as the "Report of Nutrition Work done in States"

Information in the following pages on the pattern of diets in different States and the pattern of consumption of the various foodstuffs in different population groups like pre-school children, school children, pregnant and nursing women, rural and urban population groups, industrial workers and tribal groups are based on data collected through such diet surveys.

DIET SURVEYS

1

2

3

4

1. WEIGHMENT OF RAW FOODS
2. ORAL QUESTIONNAIRE
3. WEIGHMENT OF COOKED FOODS
4. CHECKING OF STOCK BY INVENTORY

DIET SURVEYS IN INDIA

A large number of diet surveys has been carried out in the various States of India in the past. The National Institute of Nutrition and the Nutrition Sections in the Public Health Directorates in some of the States have carried out these surveys.

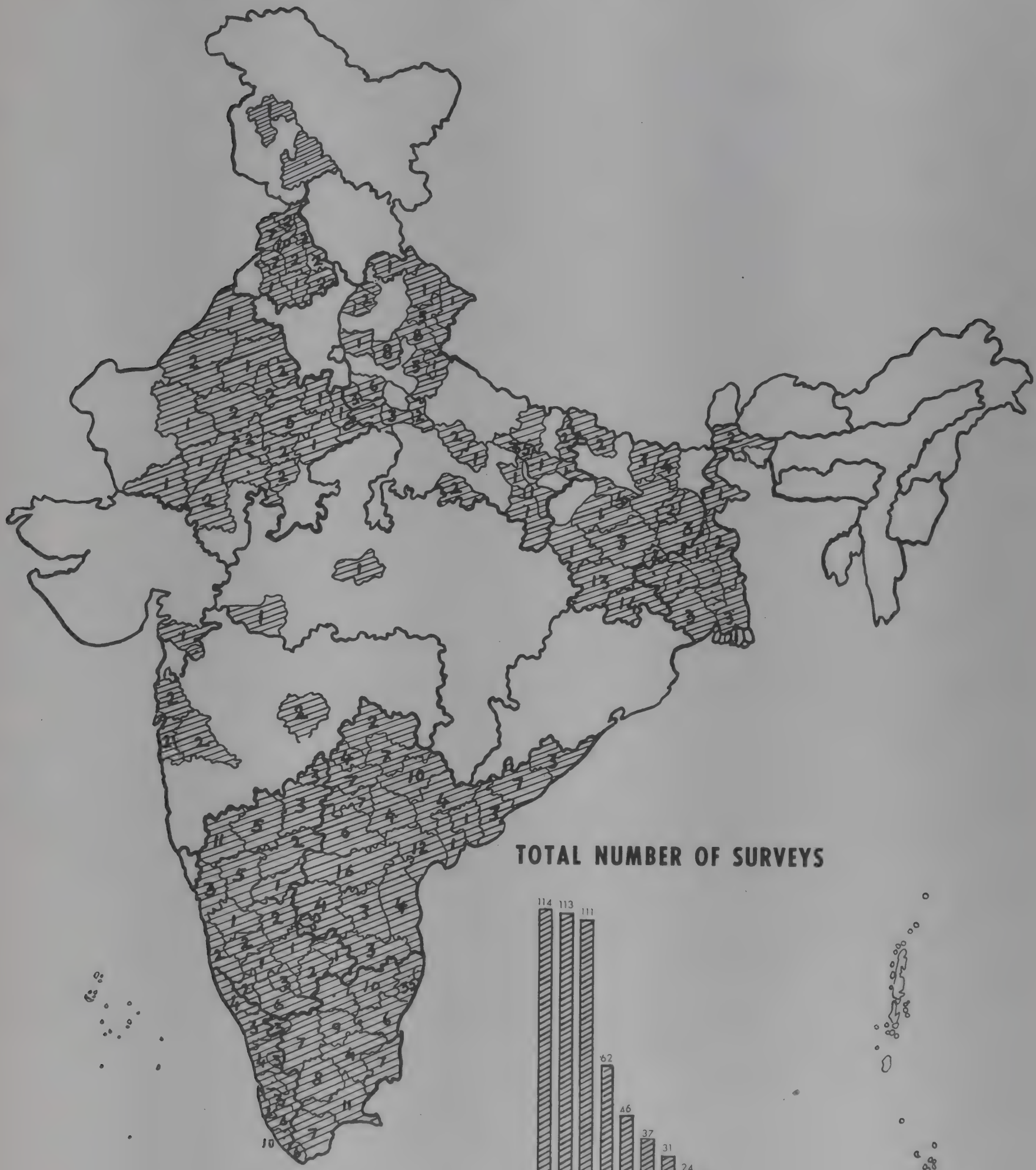
The surveys have covered urban and rural areas. The groups of population surveyed include agriculturists, tribals and industrial workers.

The data collected through the surveys over the past several years have been quite useful. But, data collected over the past decade is probably of immediate practical relevance. Accordingly, the places covered by diet surveys during the period 1960-1969 are indicated in the accompanying chart. During this period, 575 surveys were conducted covering a population of 1,52,028 persons.

It may be seen that large areas in the country remain unsurveyed and information on the pattern of diet consumed in these areas would be useful.

(See tables XI A and XI B)

AREA COVERED BY DIET SURVEY (1960—69)



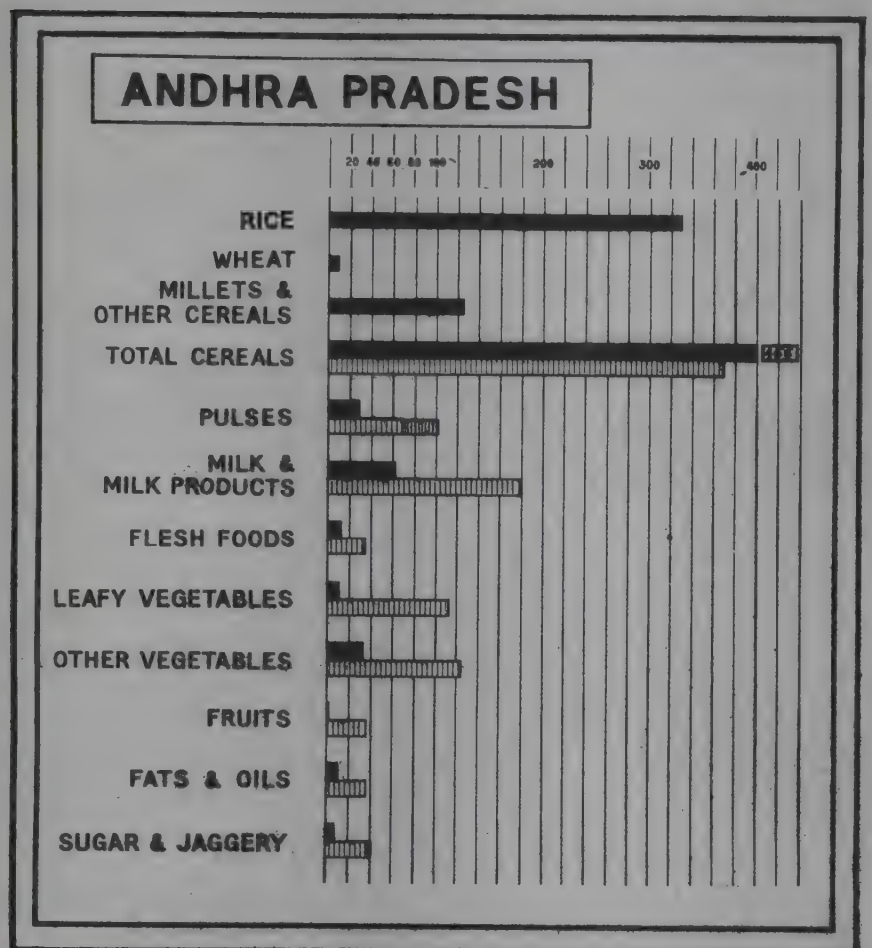
FOOD CONSUMPTION PATTERN IN THE DIFFERENT STATES

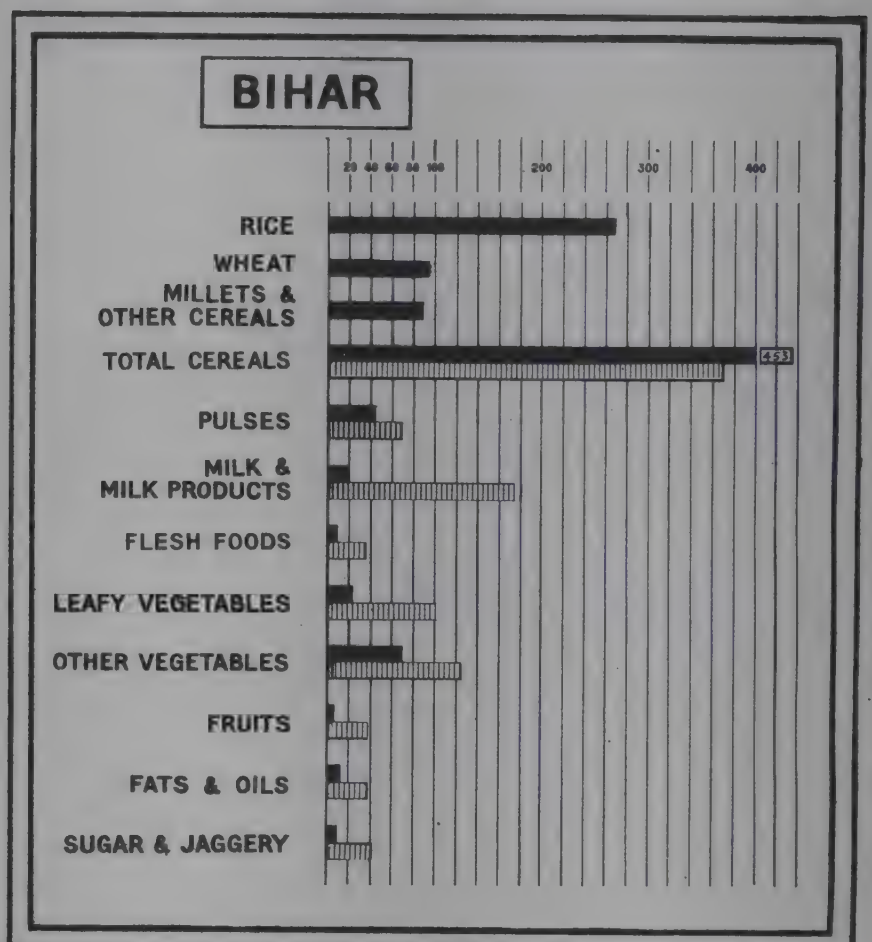
The average daily per caput consumption of different types of foodstuffs in the various States surveyed is presented in the opposite chart and in those that follow. Figures for some of the newly formed States like Haryana and Meghalaya are not available separately and hence the data for the undivided States only are presented.

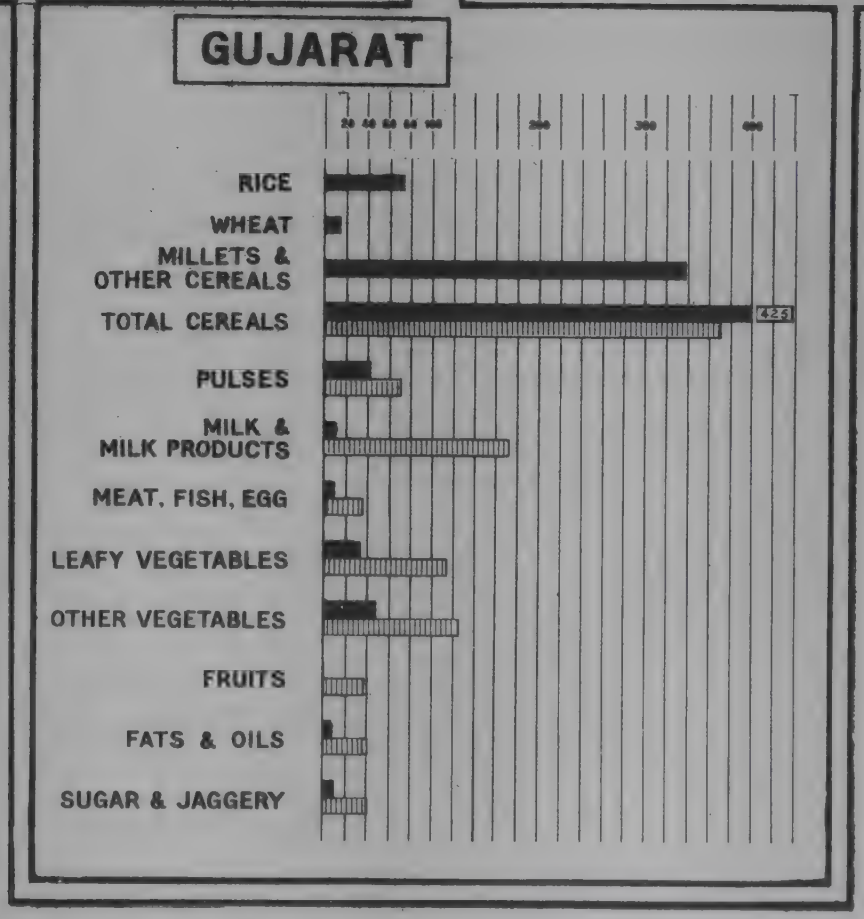
These dietary patterns in States are compared with the recommended schedule for a balanced diet for an average Indian, calculated as explained earlier.

(See table XII)

Food consumption pattern in different states



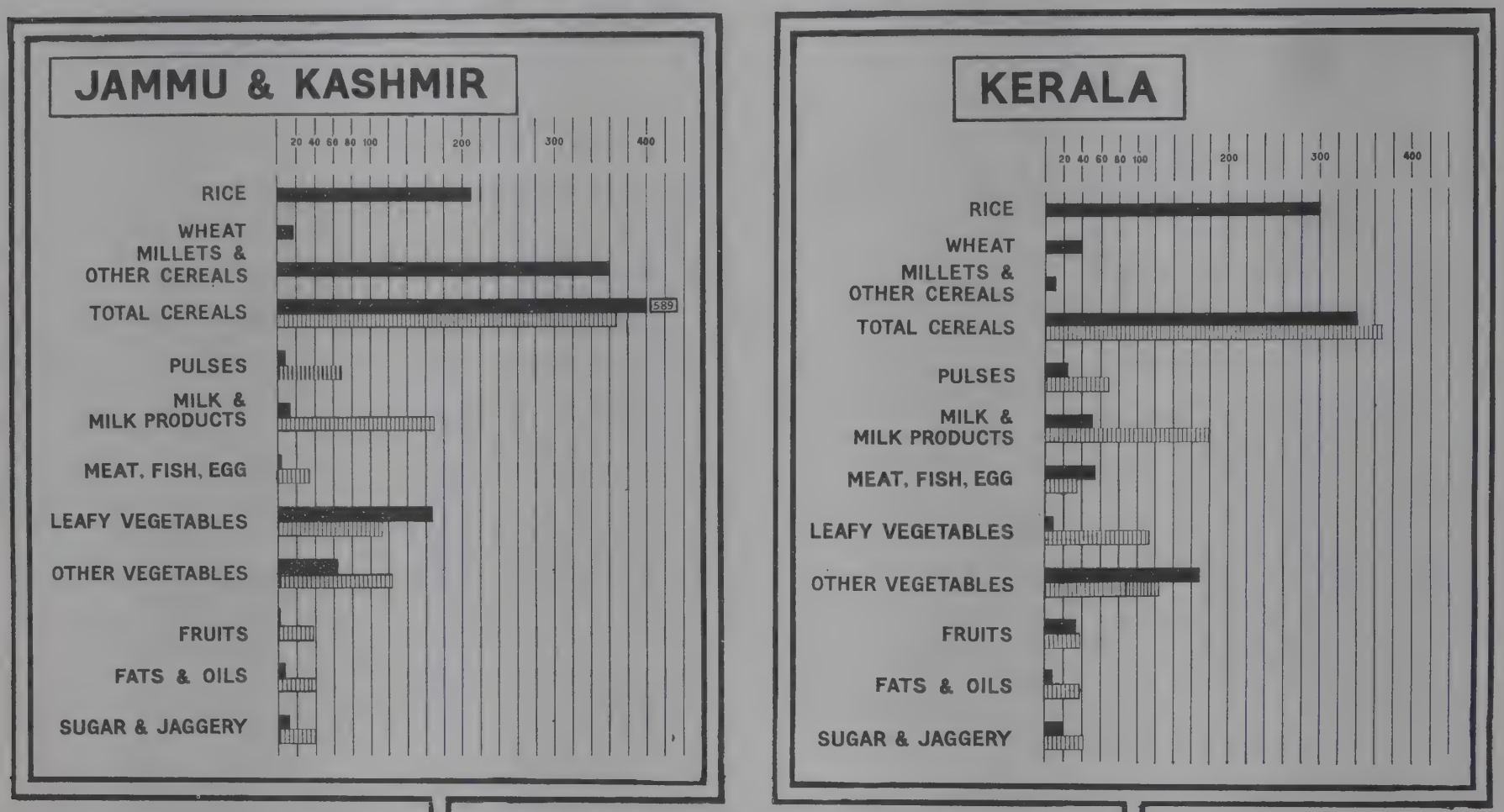




average daily consumption per person (gms.)

recommended allowance (,,)

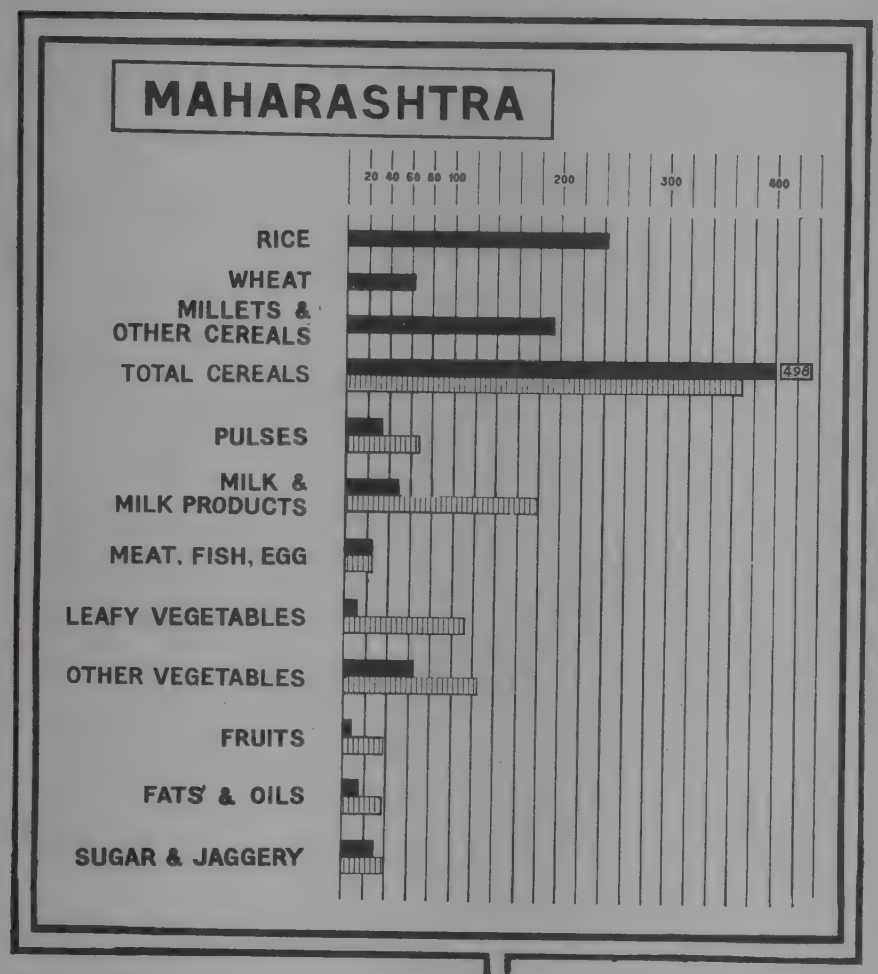
Food consumption pattern in different states

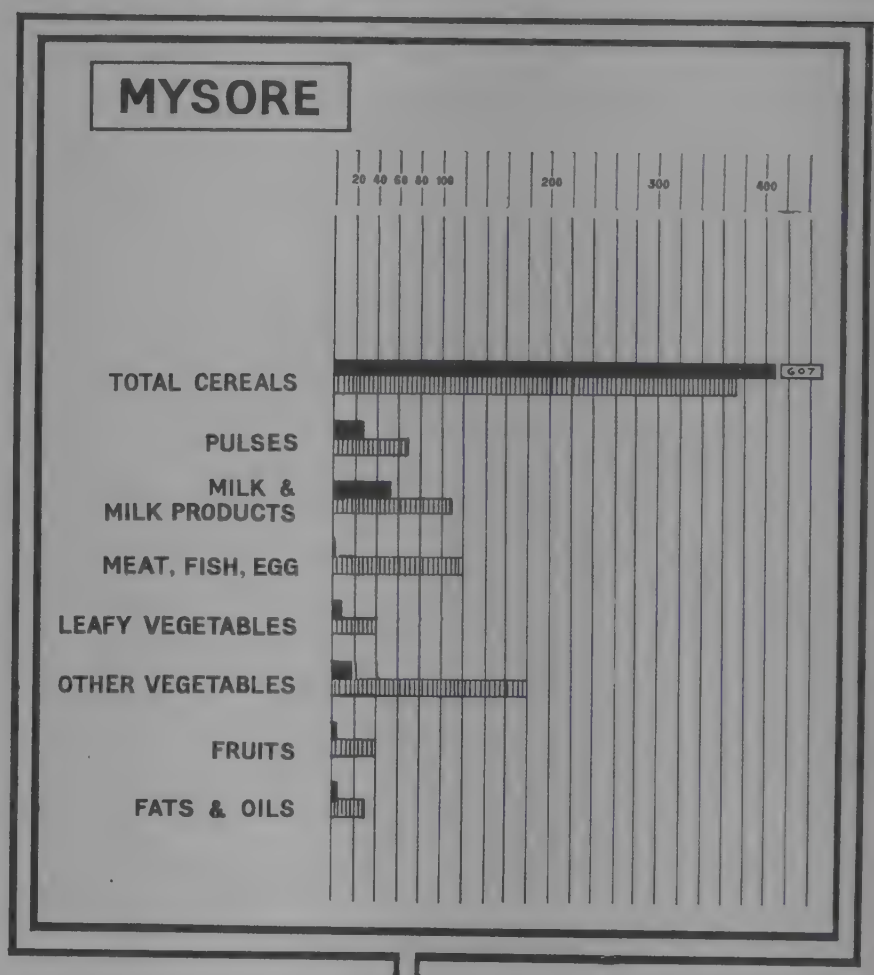


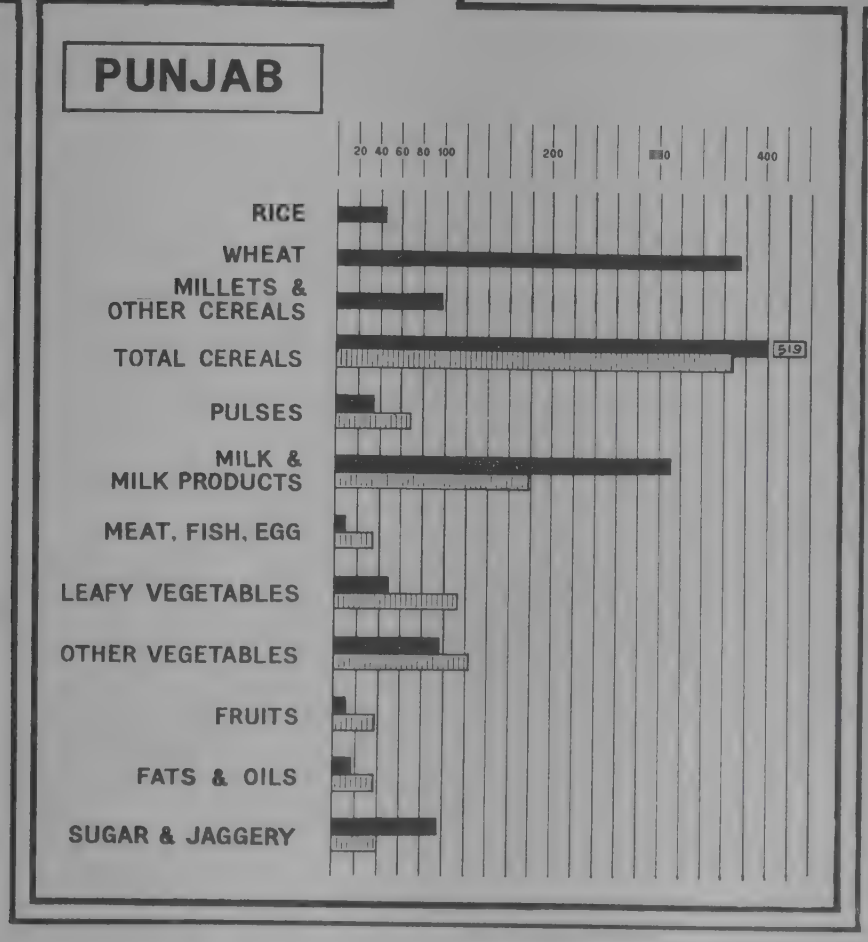
average daily consumption per person (gms.)

recommended allowance (,,)

Food consumption pattern in different states



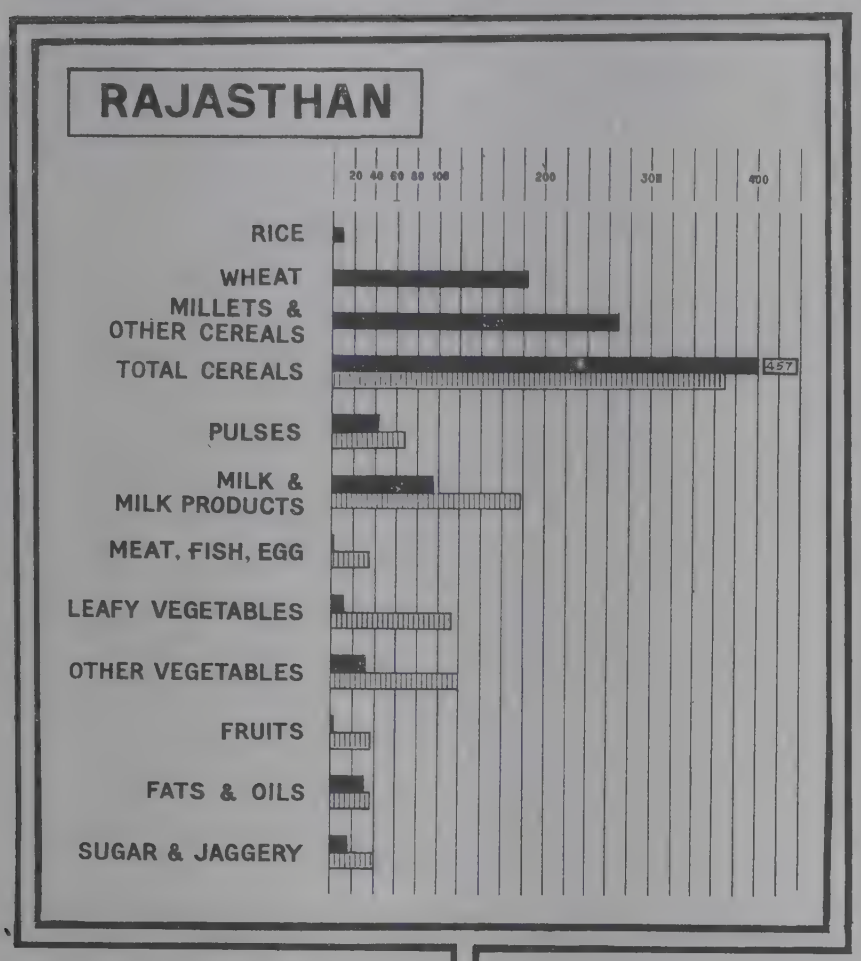


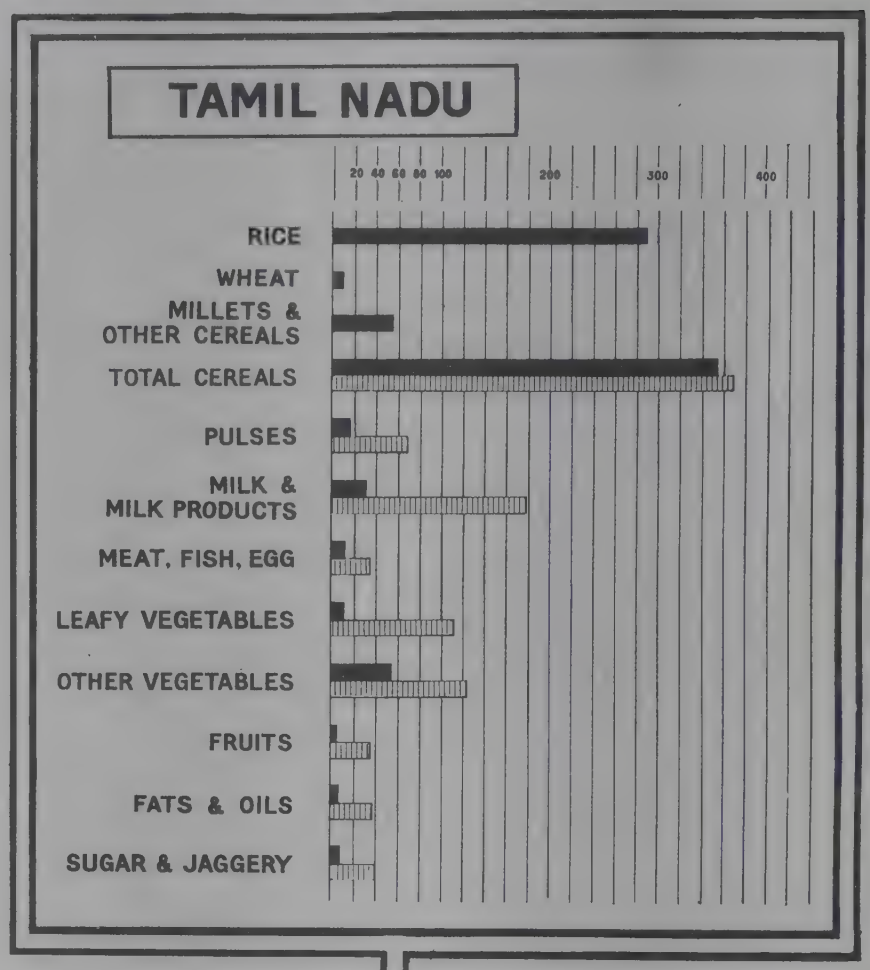


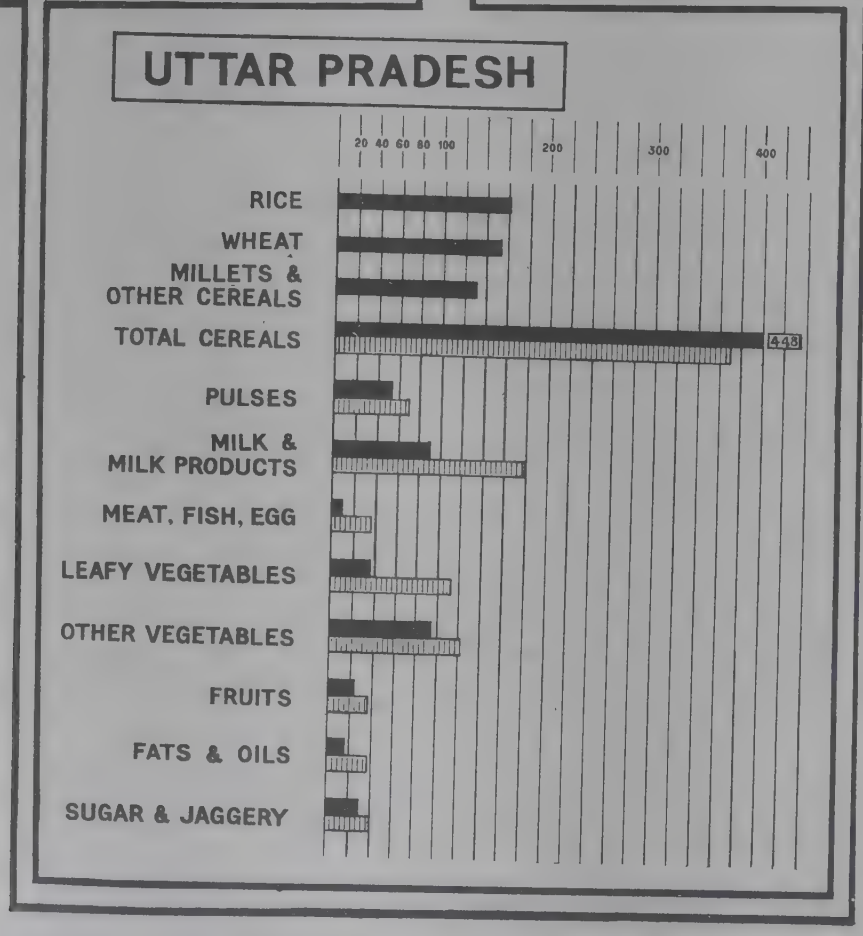
average daily consumption per person (gms.)

recommended allowance (,,)

Food consumption pattern in different states



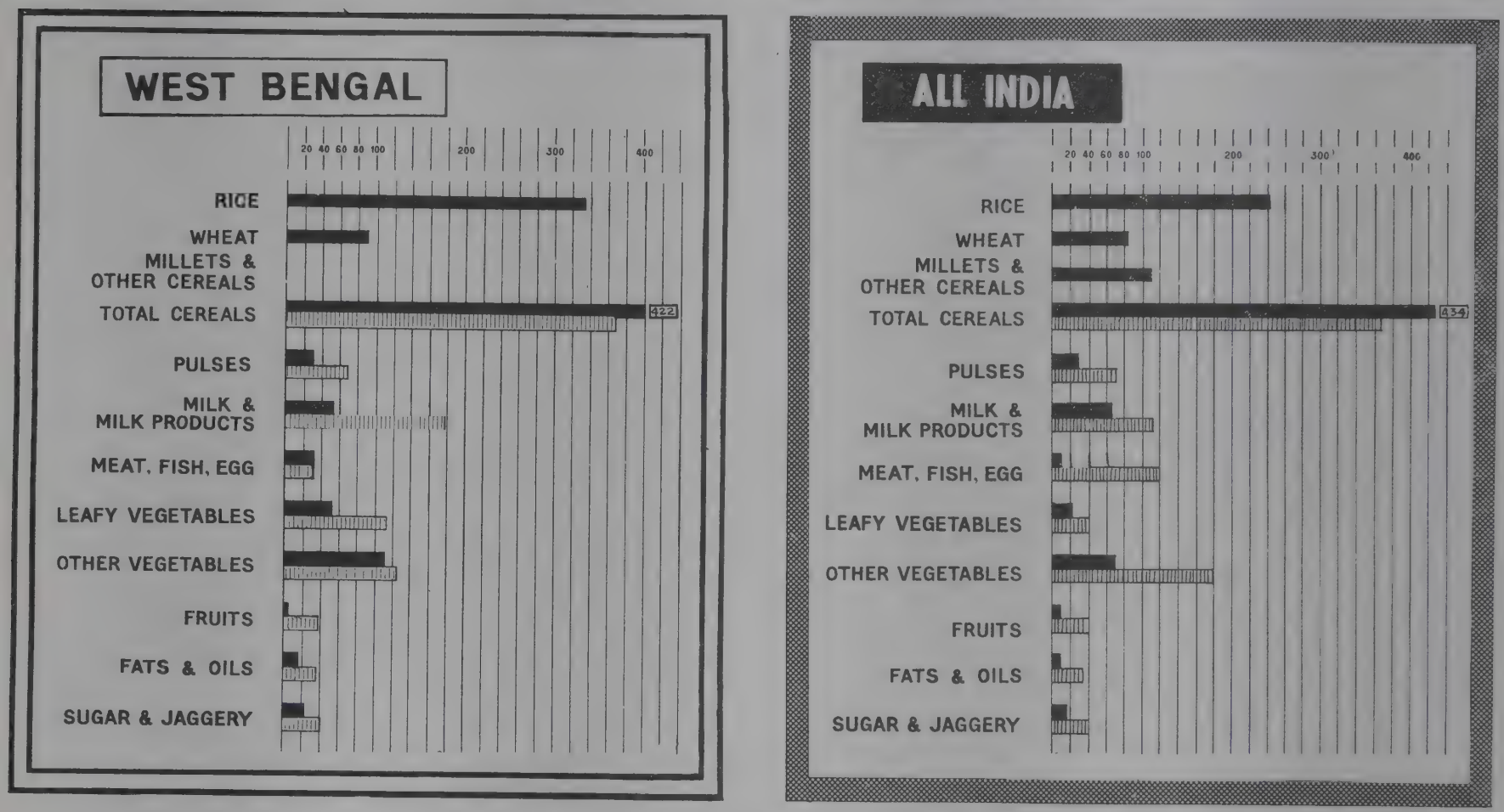




average daily consumption per person (gms.)

recommended allowance (,,)

Food consumption pattern in different states



▬ average daily consumption per person (gms.)

▤ recommended allowance (,,)

PATTERN OF CONSUMPTION OF VARIOUS FOODSTUFFS

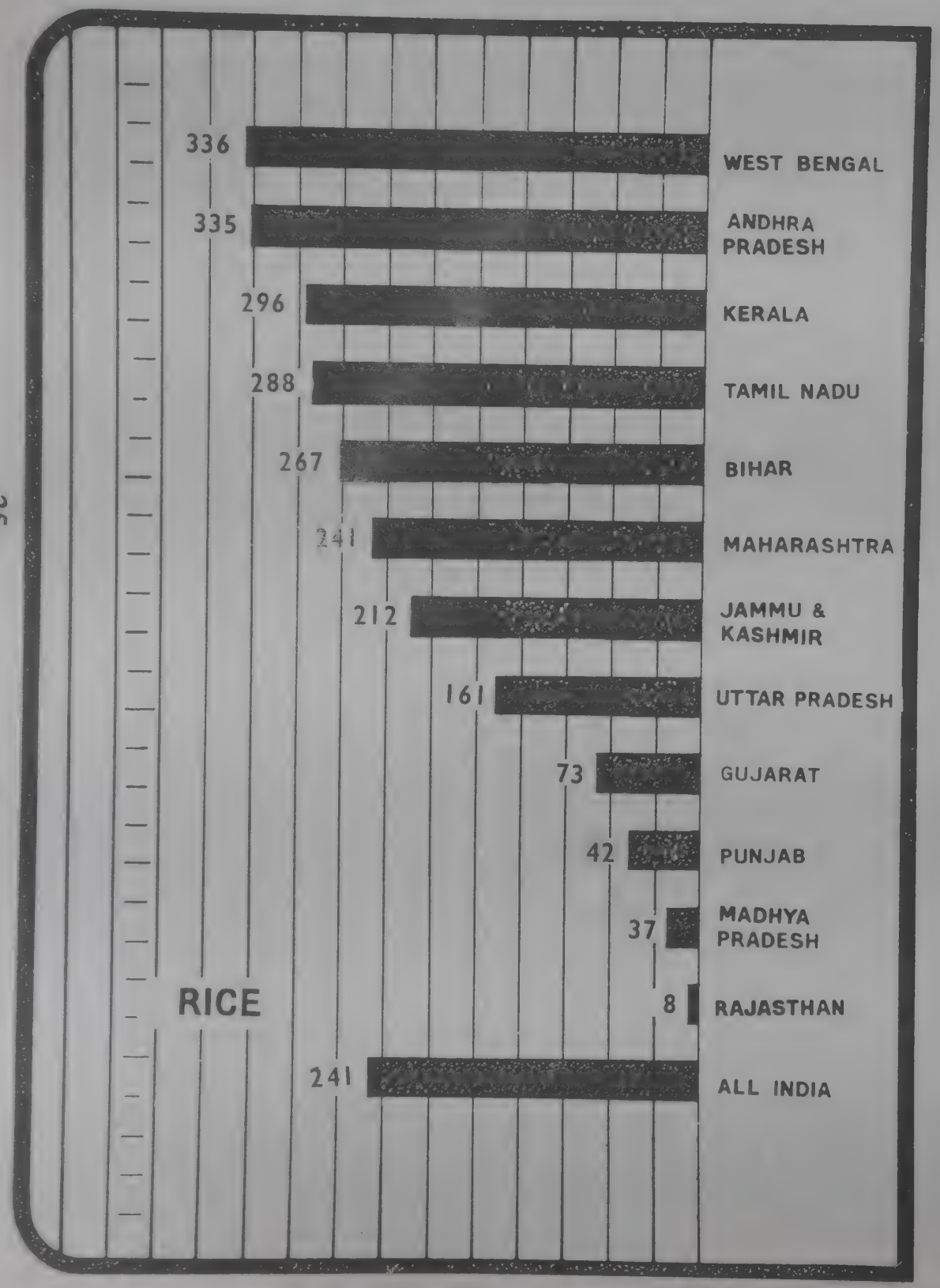
In this series of diagrams, the average daily consumption of each type of foodstuff has been compared Statewise. Each of the representation of average is subject to large variations. The All-India average figure is also given.

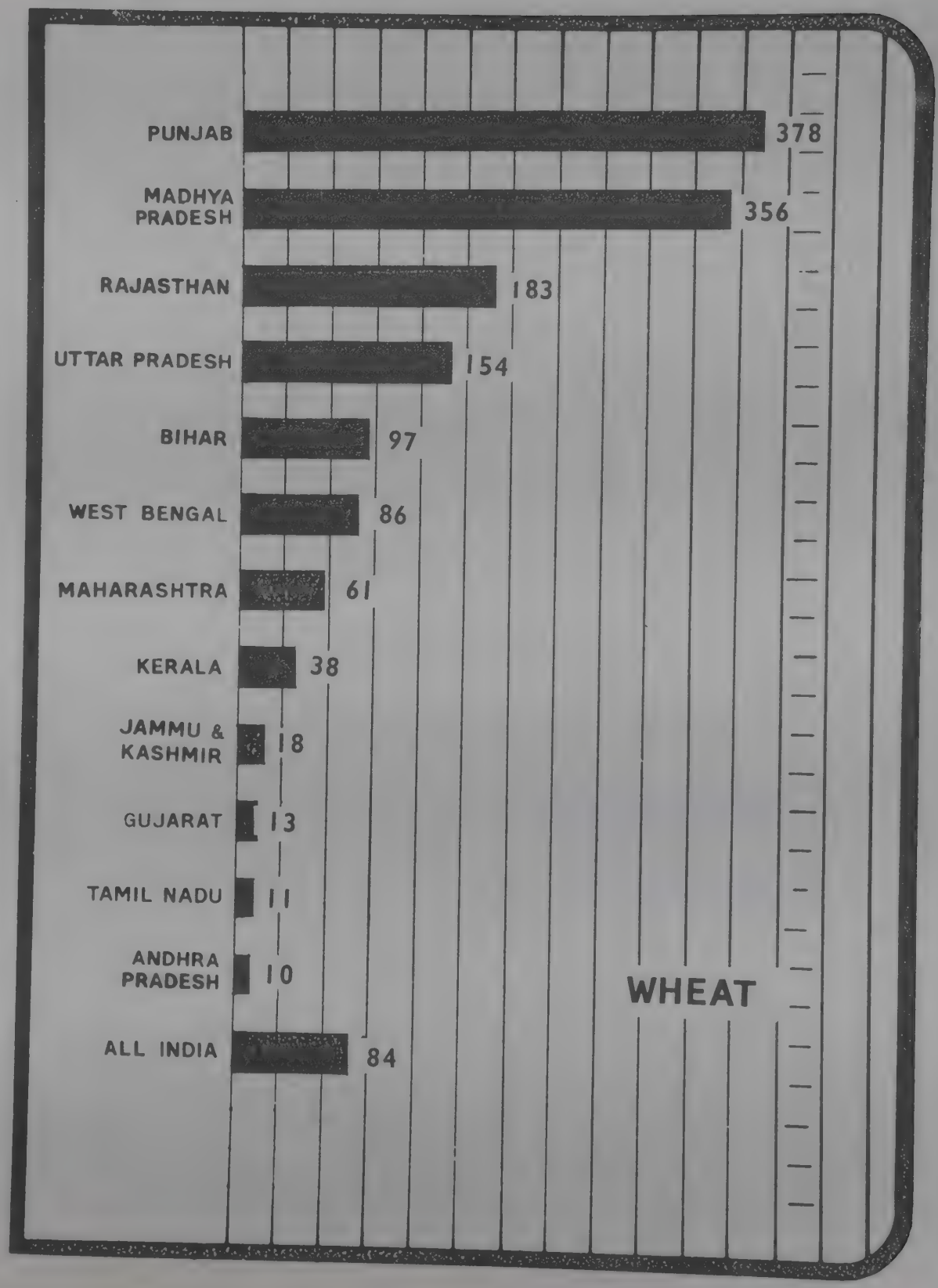
It will be apparent that the consumption of protective foods such as milk, flesh foods, leafy vegetables and fruits is rather low in most of the States.

(See table XII)

CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

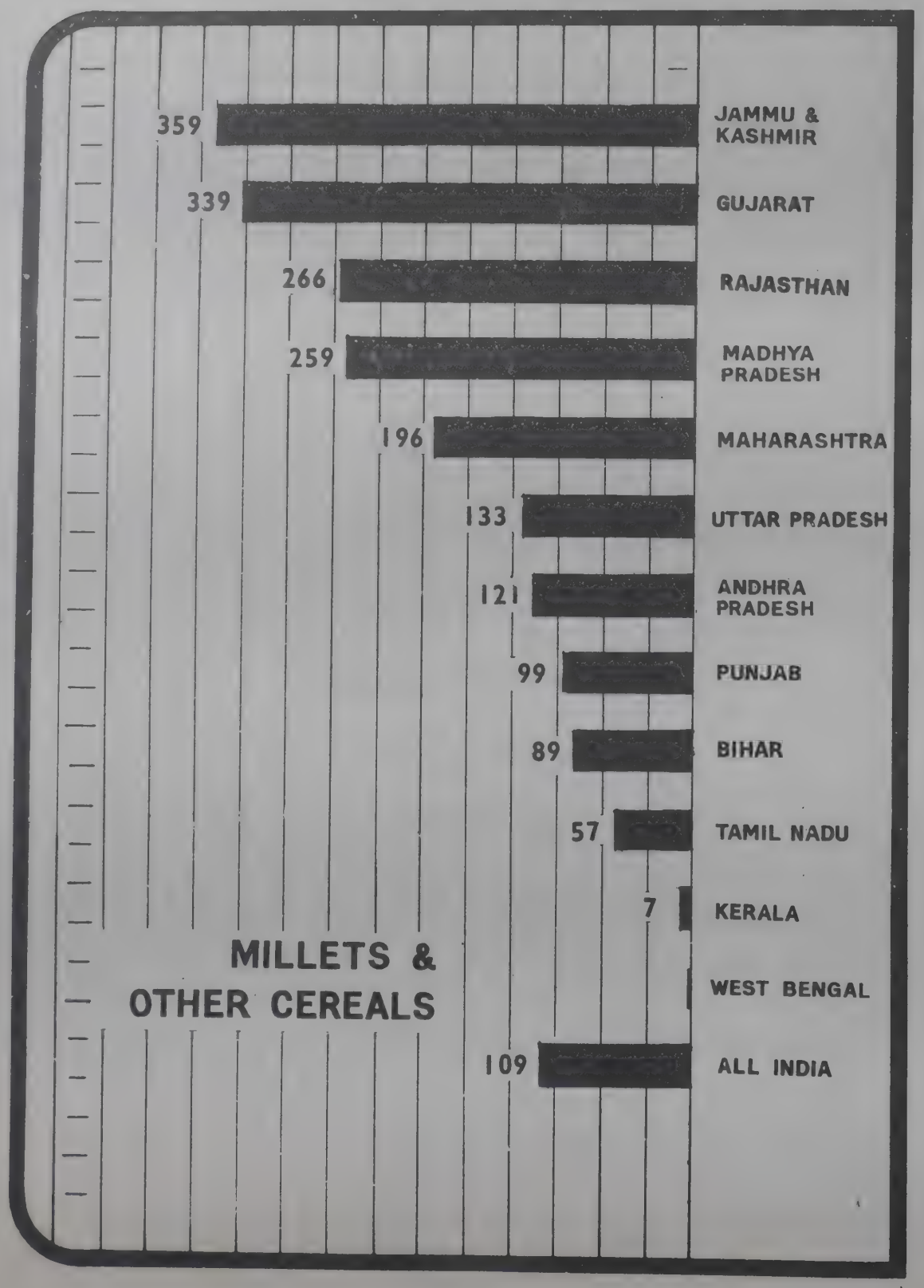
average per capita daily consumption

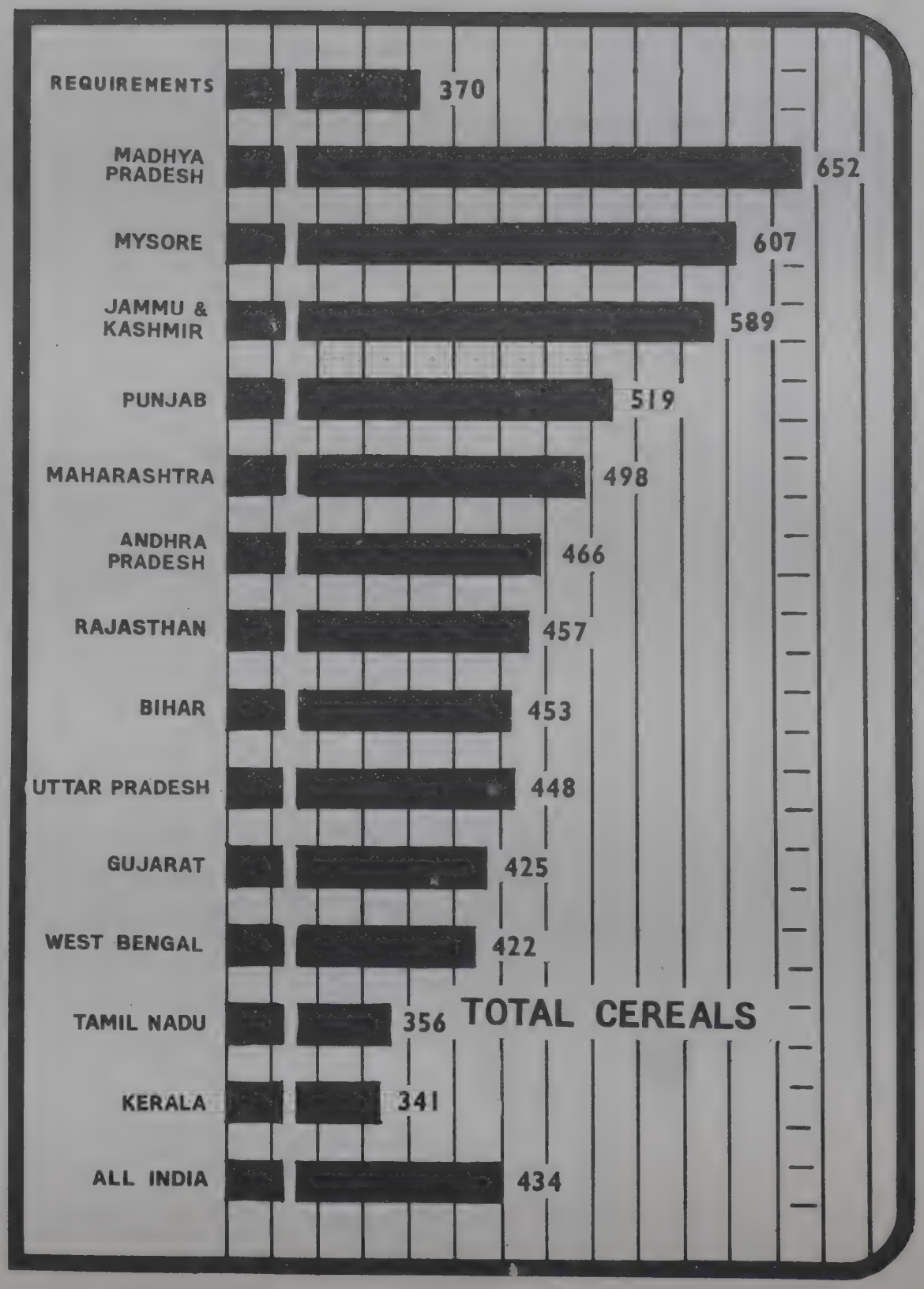




CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

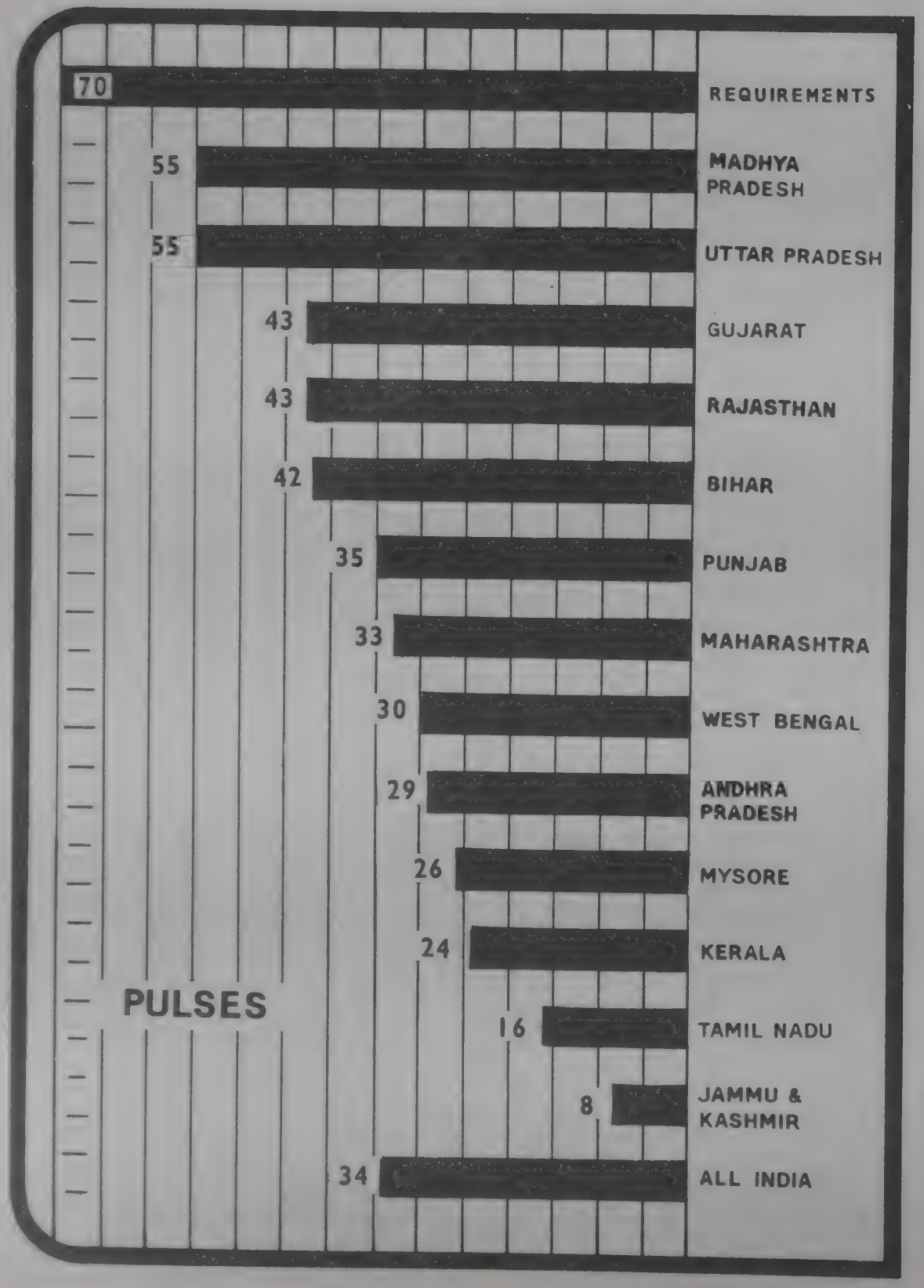
average per capita daily consumption

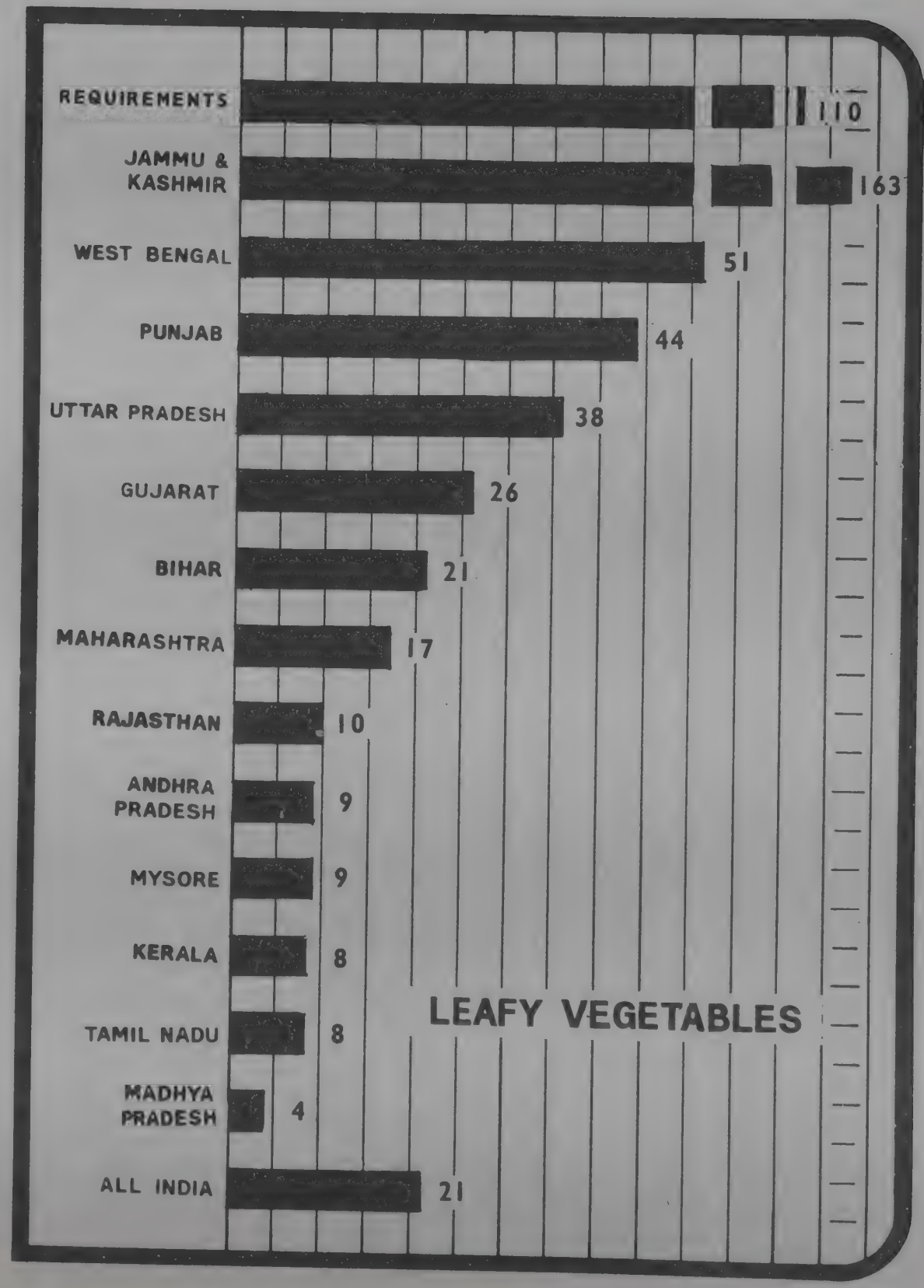




CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

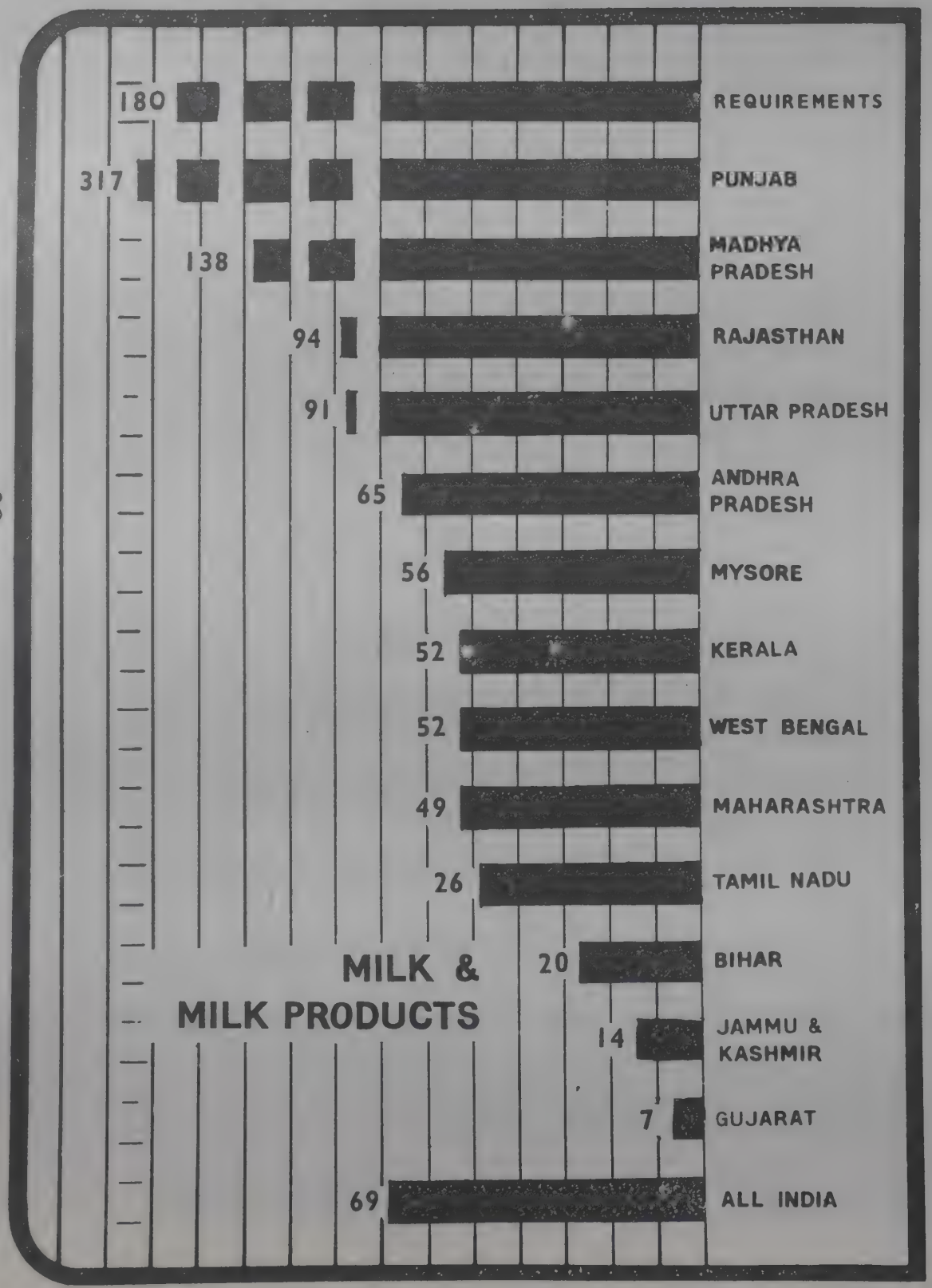
average per capita daily consumption

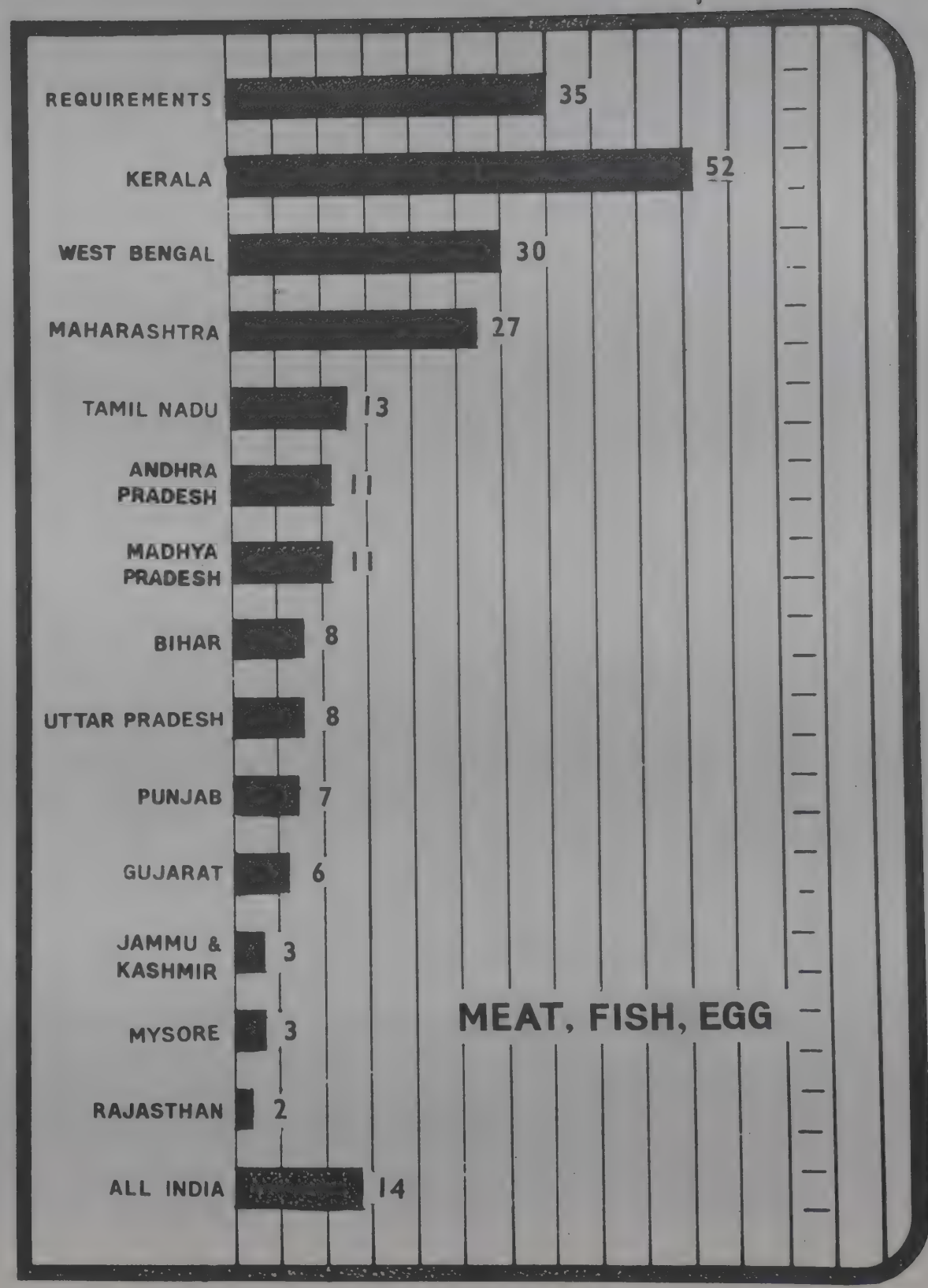




CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

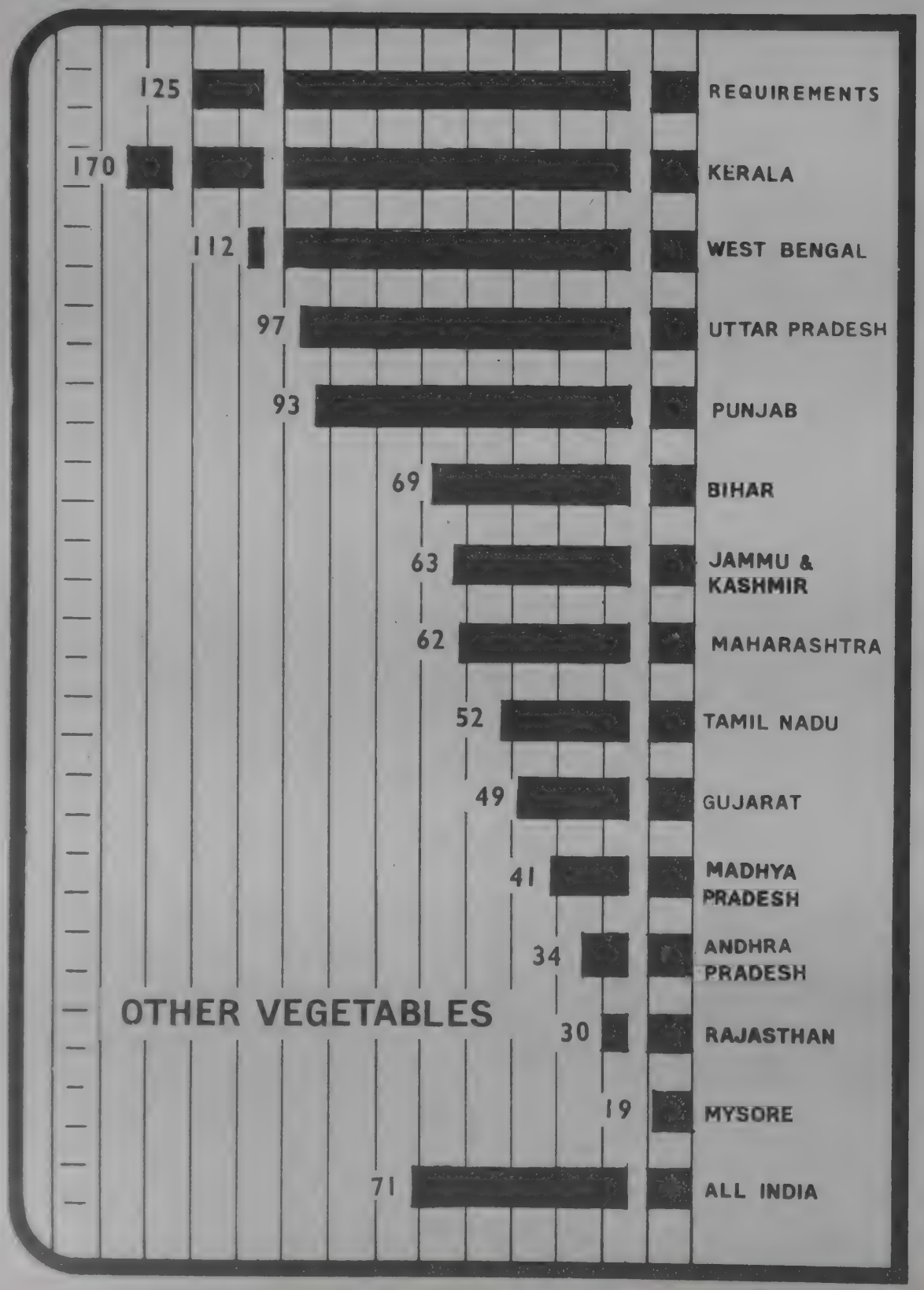
average per capita daily consumption

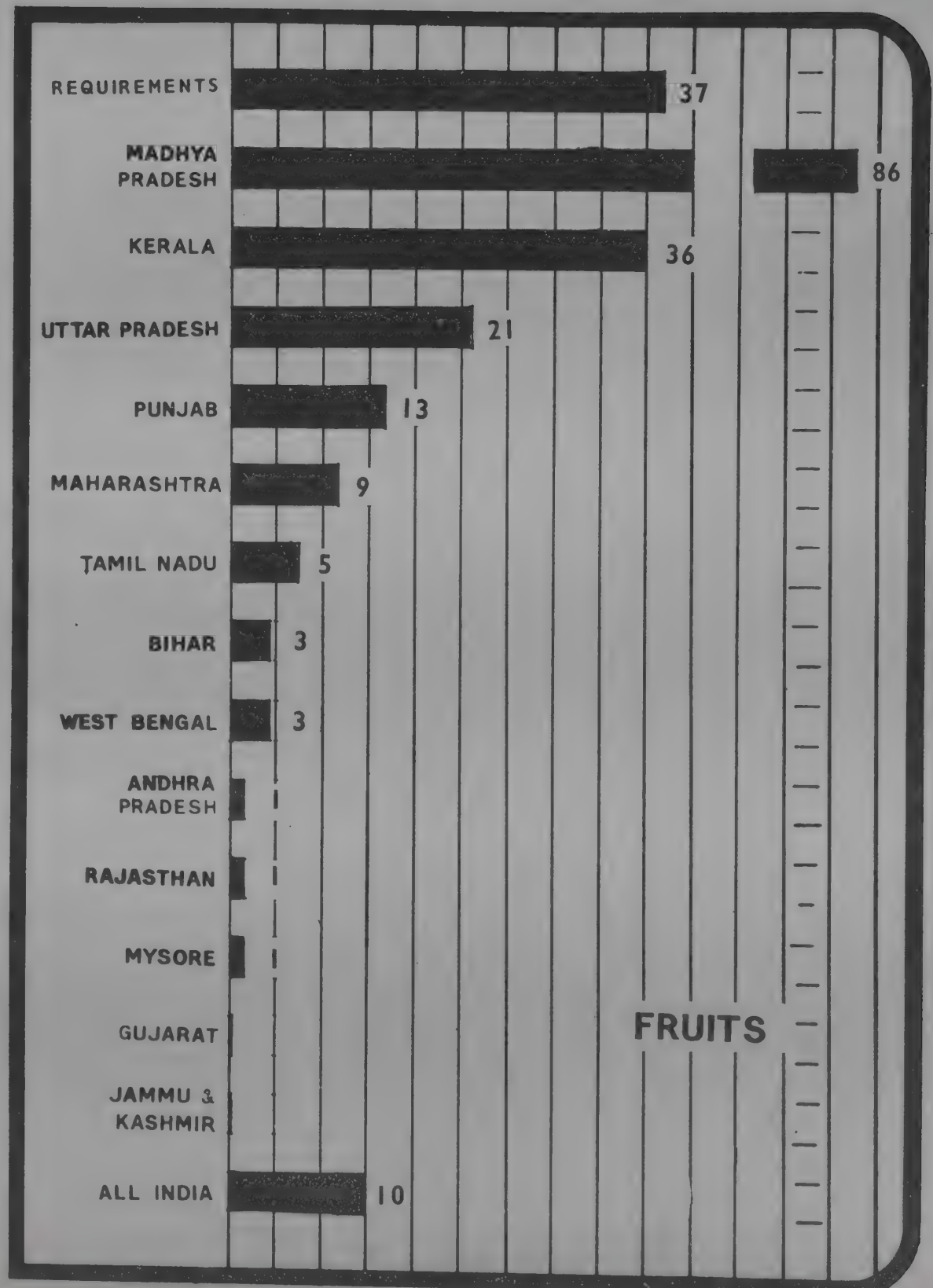




CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

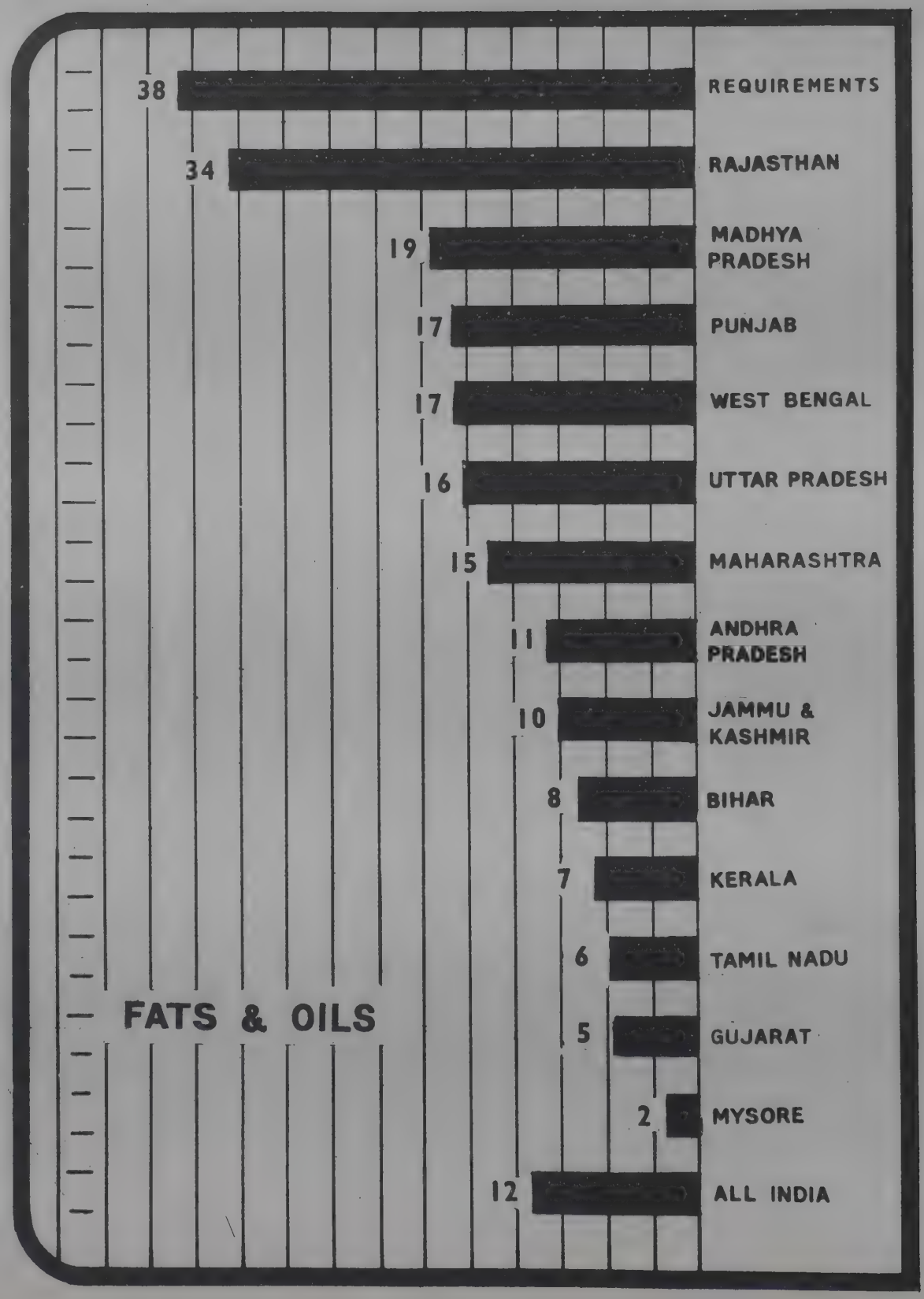
average per capita daily consumption





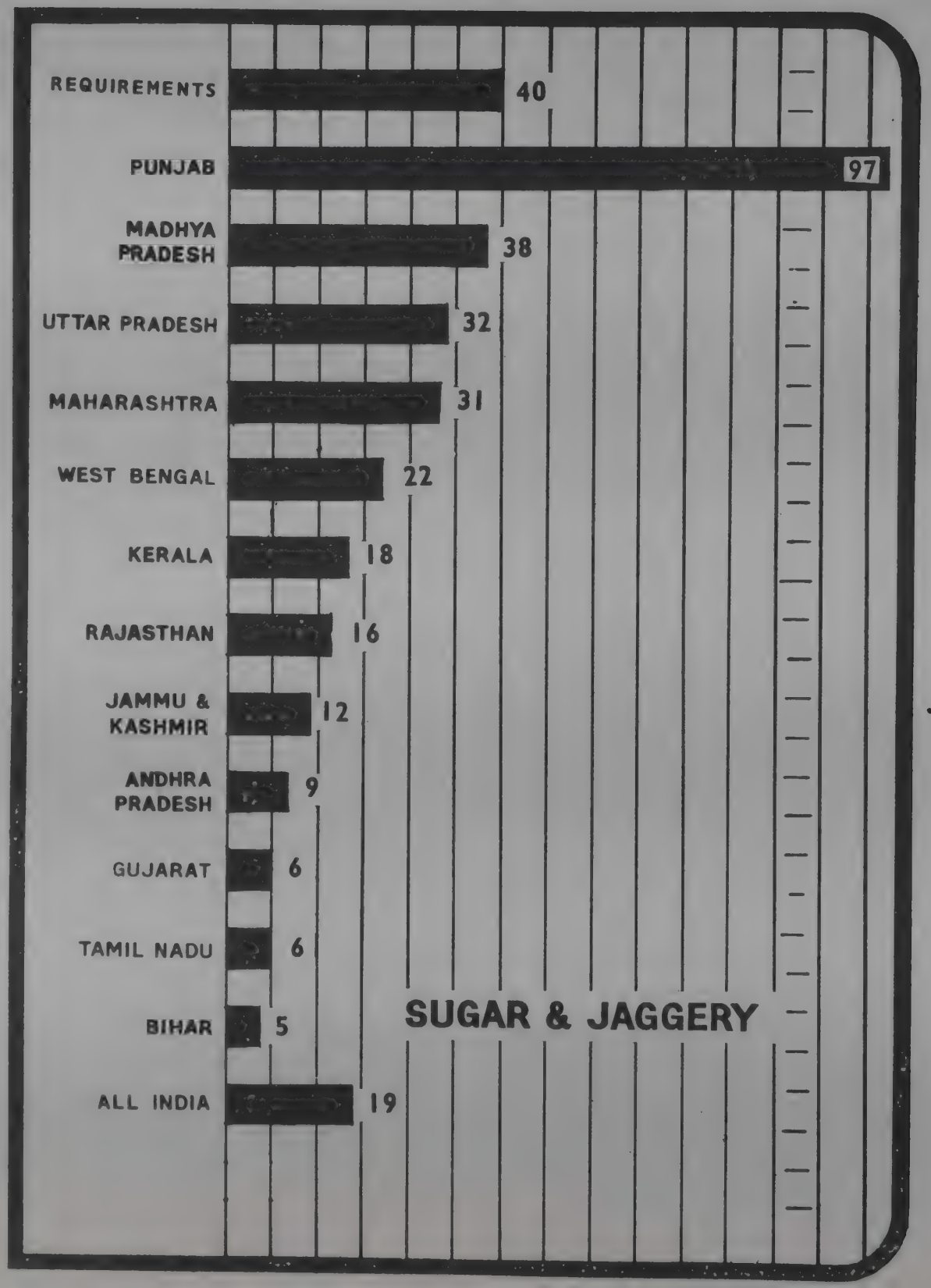
CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

average per capita daily consumption



CONSUMPTION PATTERN OF VARIOUS FOODSTUFFS

average per capita daily consumption



MONTHLY CONSUMPTION OF EGGS IN DIFFERENT STATES

The table opposite brings out the fact that the consumption of an important protective food, egg, is very low in India. Even the monthly consumption figure for eggs is very small. It will be noted that contrary to the observations on food-grains, the consumption of eggs in urban areas is relatively higher than in rural areas.

The figures relate to the year 1961-62, the latest year for which official figures for consumption are available. It must be mentioned, however, that during the past decade, intensive efforts at poultry development and egg production have taken place in the country. Such increased production can be expected to result in increased consumption also of this nutritious food.

MONTHLY CONSUMPTION OF EGGS IN DIFFERENT STATES

STATE	AVERAGE NUMBER OF EGGS CONSUMED PER PERSON FOR 30 DAYS	
	RURAL	URBAN
ANDHRA PRADESH	0.37	0.94
ASSAM	0.43	2.20
BIHAR	0.07	0.46
GUJARAT	0.19	0.32
JAMMU & KASHMIR	0.80	0.60
KERALA	0.56	0.84
MADHYA PRADESH	0.09	0.49
MAHARASHTRA	0.28	0.89
MYSORE	0.53	0.46
ORISSA	0.13	0.65
PUNJAB & HARYANA	0.33	0.17
RAJASTHAN	0.10	0.28
TAMIL NADU	0.34	1.02
UTTAR PRADESH	0.09	0.30
WEST BENGAL	0.47	1.34
UNION TERRITORIES	0.71	1.13
ALL INDIA	0.25	0.75

NATIONAL SAMPLE SURVEY: 17th ROUND : SEPTEMBER 1961-JULY 1962
(NO. OF SAMPLE HOUSEHOLDS: RURAL 7173. URBAN 5247)

CALORIE INTAKE IN DIFFERENT STATES

One of the important functions of food is to provide energy measured in terms of calories. The adequacy or otherwise of food for groups of persons can be judged by a comparison of the calorie intake of the different groups with the recommended allowances for the concerned groups.

From the data on the consumption of different classes of foodstuffs in the different States in India presented in the preceding charts, it is possible to make a broad assessment of the calorie content of the diet obtaining in the different States.

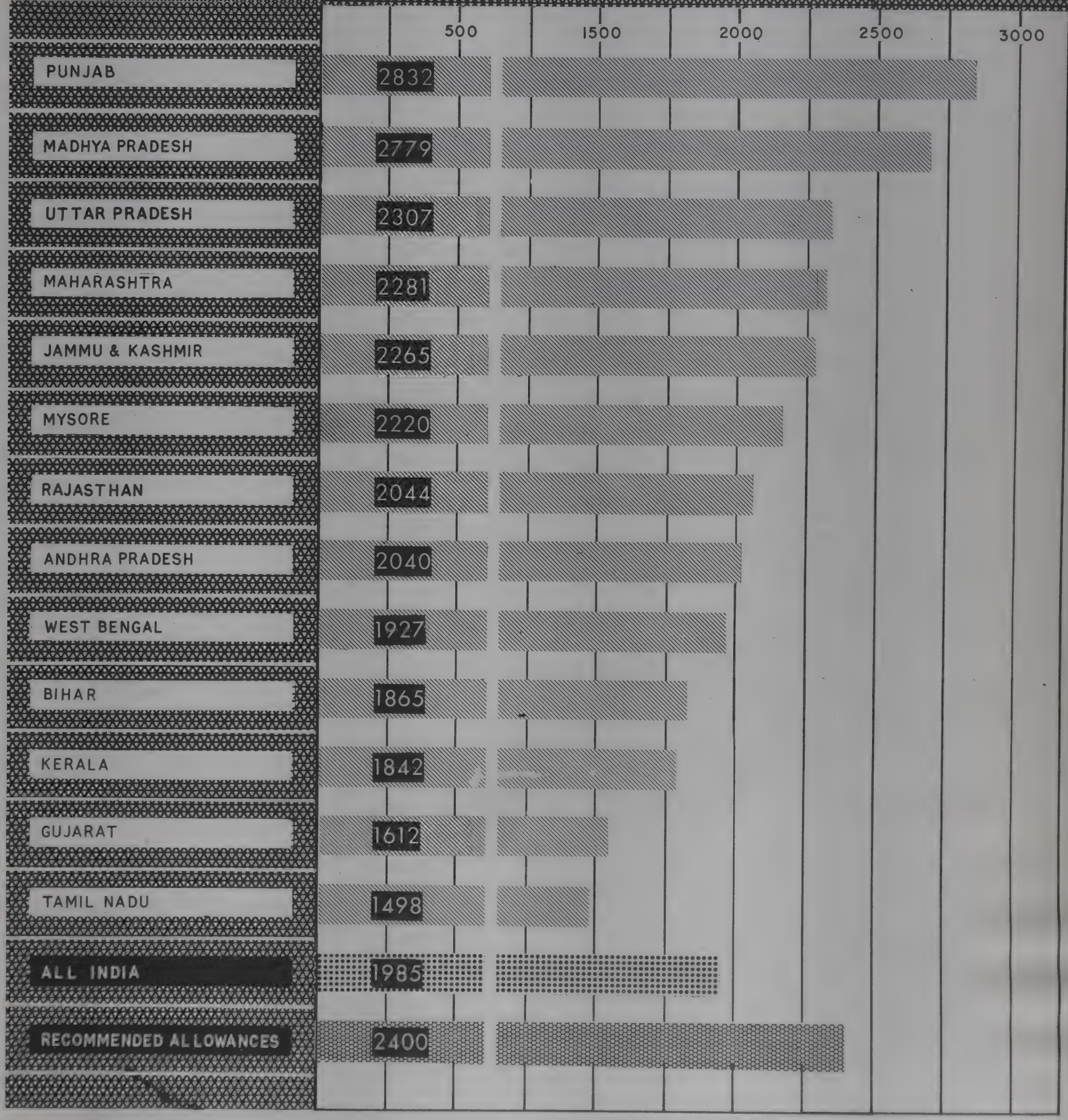
The calorie requirement depends on the type of occupation, body-build, climate, sex, age and several other considerations. In India, the daily requirements of calories have been placed at 2,400-3,900 per adult man and at 1,900-3,000 per adult woman.

Taking into account the distribution of persons in different age and sex groups and in different activities in India, the average per capita requirement of calories would appear to be about 2,400. As against this, the All-India average for consumption of calories is about 2,000 per person per day. The data presented here are based on surveys conducted during the years 1960-69.

These data have been collected from Nutrition Survey Reports furnished by the State Nutrition Departments. Since the distribution of income groups surveyed in different States was not the same, the data from different States are not strictly comparable.

(See table XIII)

CALORIE INTAKE PER DAY IN THE DIFFERENT STATES



PROTEIN INTAKE IN DIFFERENT STATES

Protein is an important constituent of the diet and is necessary for growth and for replacement of tissue wear and tear.

The protein requirement is greater during periods of growth in children and under stress conditions such as pregnancy and lactation. The Nutrition Expert Group recommended in 1968, allowances for protein for different groups of population. Taking into account the age and sex composition of the population, the average per capita requirement of protein has been placed at about 44.0 g. per day.

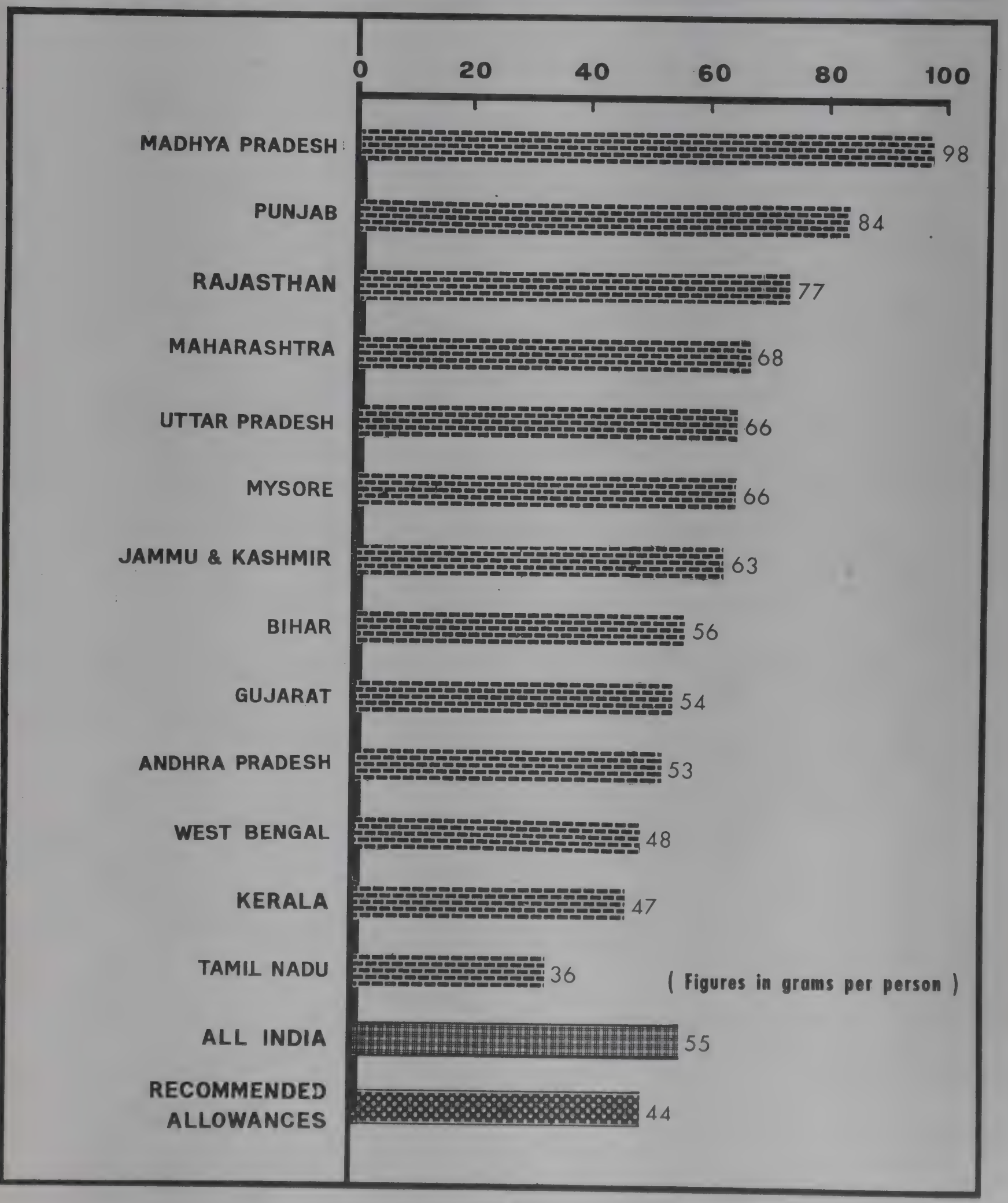
The All-India average per capita consumption of protein has been estimated to be about 56 g. per day. In view of the high consumption of cereals, the protein requirement appears to be met on an average.

It can be seen that in general, the pattern of protein consumption in the different States corresponds to the pattern of calorie consumption. Any increase in calorie intake by increased consumption of the staple foods like cereals can, therefore, be expected to result in a corresponding increase in protein consumption as well.

These data have been collected from Nutrition Survey Reports furnished by the State Nutrition Departments. Since the distribution of income groups surveyed in different States was not the same, the data from different States are not strictly comparable.

(See table XIII)

PROTEIN INTAKE PER DAY in the different states



PERCENTAGE OF NON-VEGETARIANS IN DIFFERENT STATES

This is probably the first interesting information of its kind presented so far. These data have, however, to be interpreted with caution. Most subjects of low income groups are perhaps vegetarians as a result of economic necessity. Consumption of flesh foods occasionally may not have the same nutritional significance as their regular consumption.

PERCENTAGE OF NON-VEGETARIANS IN DIFFERENT STATES

BASED ON NATIONAL SAMPLE SURVEY REPORT
Nº 99 & 107, (1962)

DIETS OF SPECIAL GROUPS OF POPULATION

NUT-110
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DIETS OF PRE-SCHOOL CHILDREN

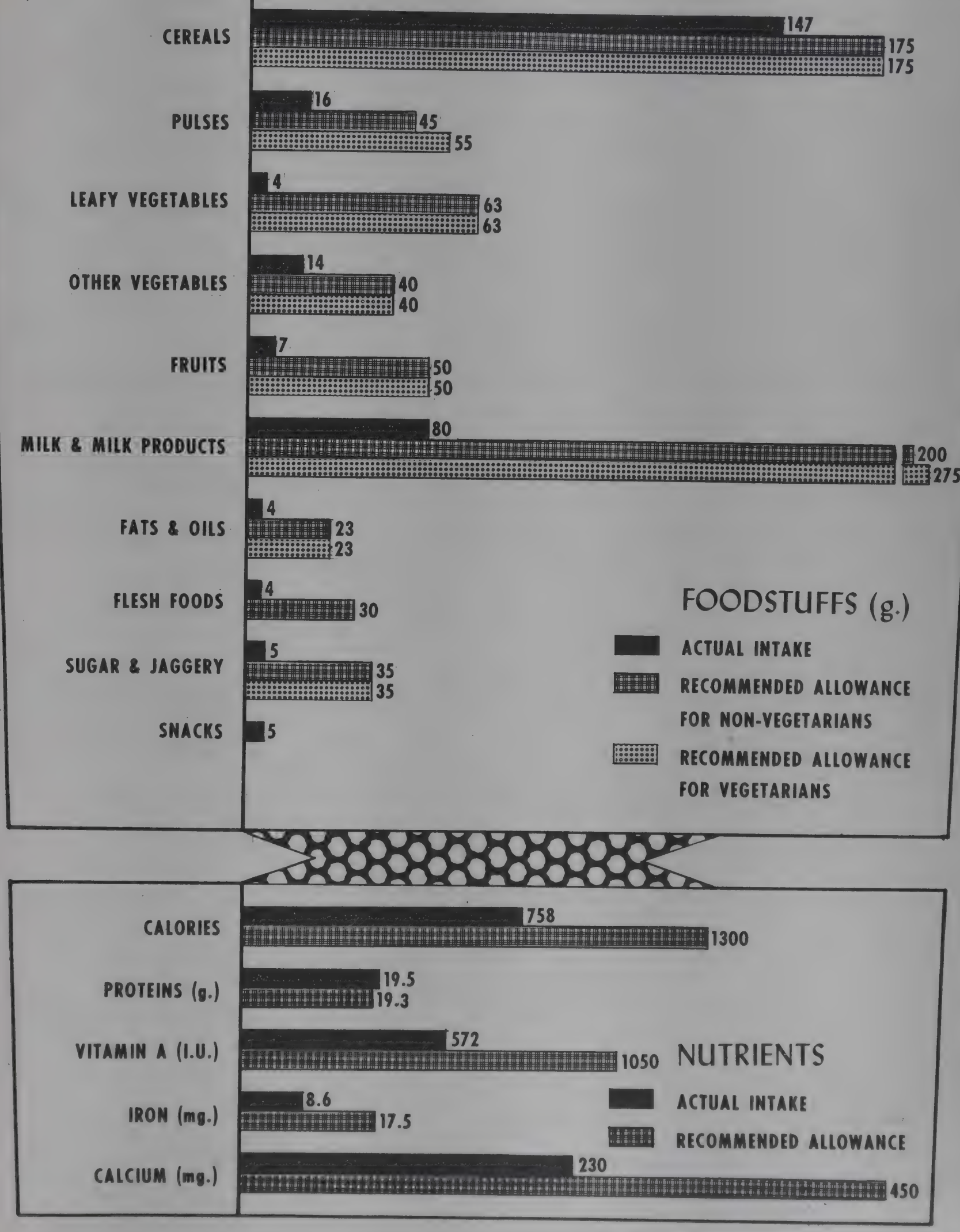
Among the groups affected by nutritional deficiencies, children in the age group 1 to 5 years form a sizable proportion. Cases of protein calorie malnutrition, vitamin A deficiency, anaemias and other nutritional disorders are often found in relatively large numbers in this group. It is, therefore, of interest to know the dietary pattern of this group.

Detailed investigations on the dietary and nutritional status of pre-school children (children aged 1-5 years) have been carried out during the past decade at different centres in India under the auspices of the Indian Council of Medical Research. More than 1,800 children were covered in these surveys and valuable data were collected. The results of some of these surveys are presented in the chart opposite.

It was found that the diets were grossly deficient in almost all the important nutrients.

(See table XIV)

DIETS OF PRESCHOOL CHILDREN



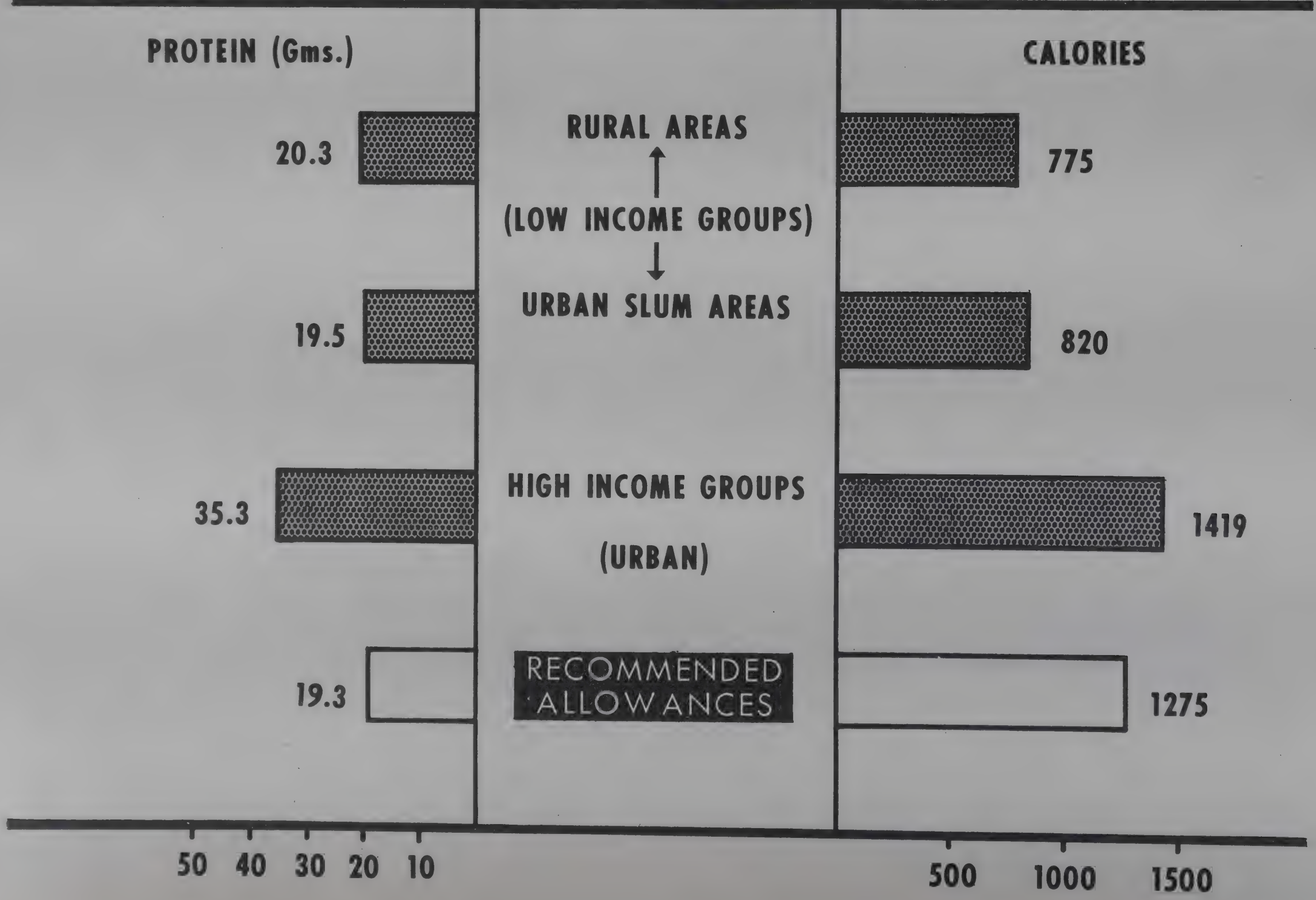
PROTEIN AND CALORIE INTAKE OF PRE-SCHOOL CHILDREN IN RELATION TO ECONOMIC STATUS

The diets of pre-school children in different parts of India were surveyed, and the daily per caput intakes of proteins and calories of these children belonging to different socio-economic status are given in the opposite chart.

The diets were found to be adequate in protein among children of all the groups. Except in the case of children belonging to the highly privileged societies in urban areas, the diets were found to be deficient in calories in all the groups.

(See table XV)

PROTEIN AND CALORIE INTAKE OF PRE-SCHOOL CHILDREN BY ECONOMIC STATUS



DIETS OF SCHOOL CHILDREN

School children constitute one of the important vulnerable segments of the population. They account for over 20 per cent of the population in India.

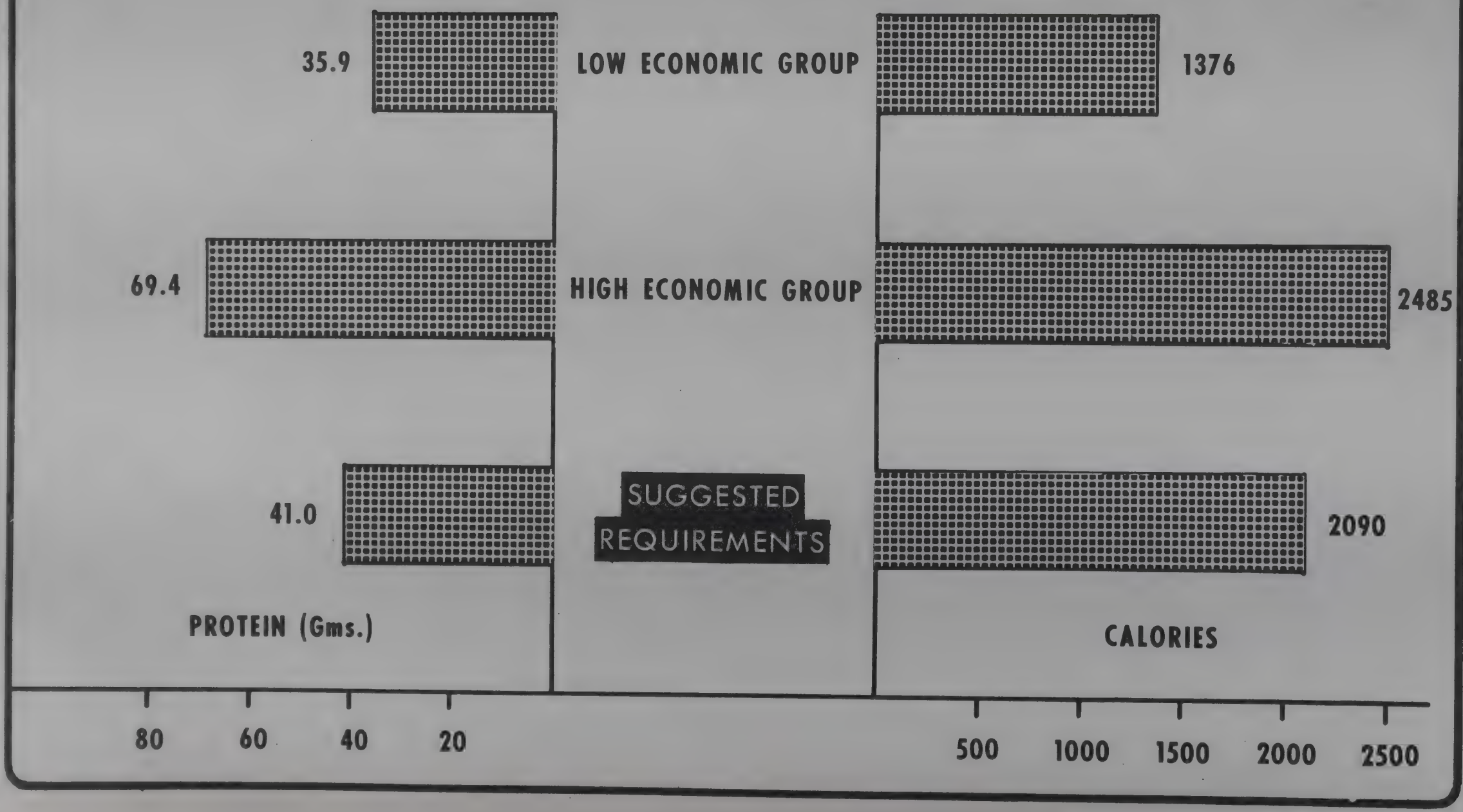
The National Institute of Nutrition, Hyderabad, has conducted a number of diet surveys on school children in and around Hyderabad city. Information on the intake of calories and proteins by children of different socio-economic status is provided in the opposite chart.

Although the protein intake appears to be satisfactory in the lower age groups, it can be seen that in general the diets consumed by the children of the lower economic status are deficient in proteins and calories. The diets of the children belonging to the higher socio-economic group were, however, adequate with respect to proteins as well as calories.

(See table XVI)

DIETS OF SCHOOL CHILDREN

PER CAPUT INTAKE PER DAY



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DIETS IN HOSTELS

With increasing emphasis on general education in the country, a number of students are housed in hostels attached to educational institutions.

The National Institute of Nutrition, Hyderabad, addressed a detailed questionnaire to the authorities in charge of hostels all over the country to assess how far the diets in these establishments were nutritionally adequate.

As many as 127 men's hostels and 167 women's hostels all over the country responded to the questionnaire. The places from where data were received are shown opposite.

It was noted that the calorie and protein contents of the diets in about 30 per cent of the hostels were not adequate and the diets needed improvement.

(See table XVII)

DIETS IN HOSTELS

FIGURES REPRESENT THE NUMBER OF SCHEDULES SURVEYED IN EACH STATE

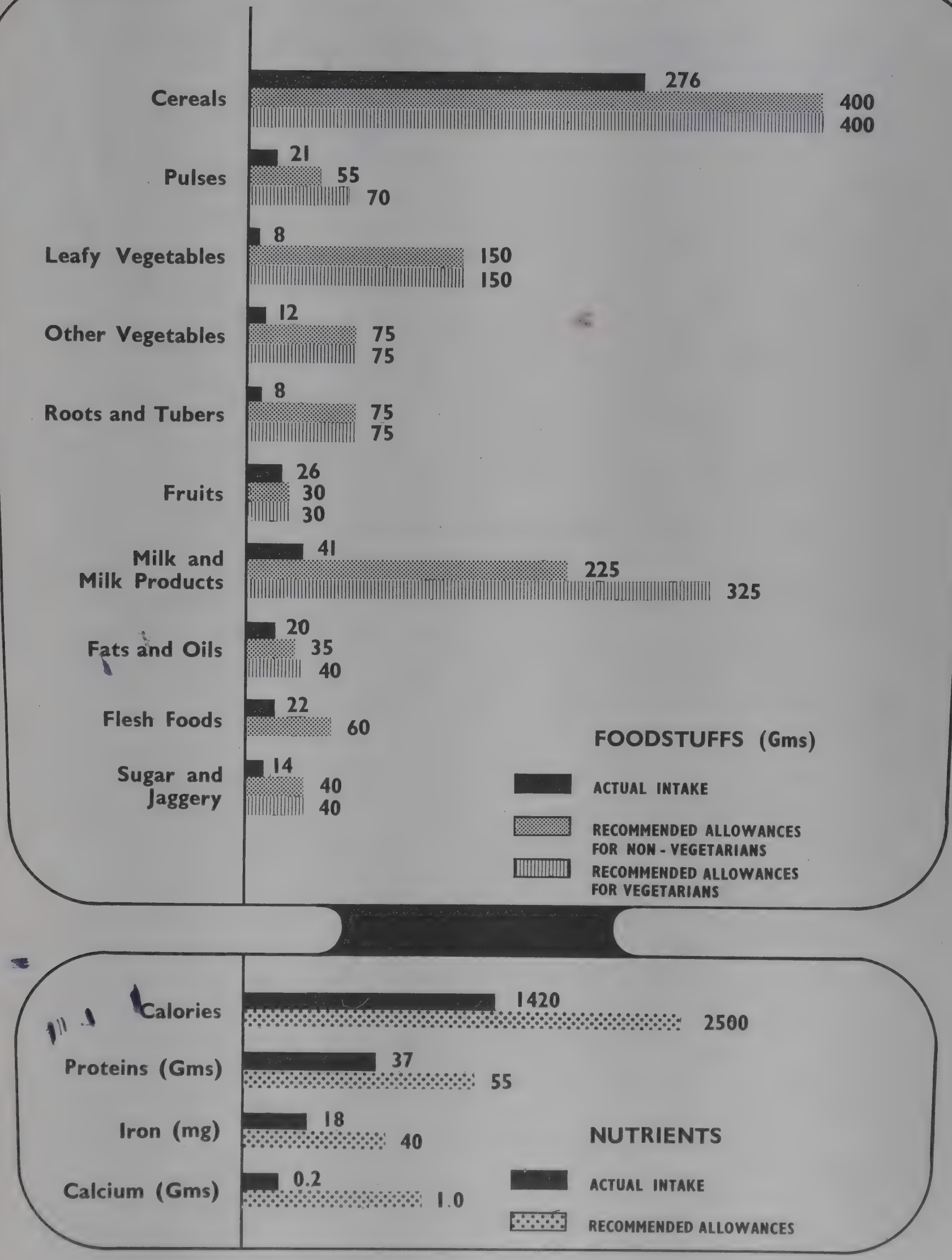
DIETS OF PREGNANT WOMEN

Nutrition workers have repeatedly emphasized the need for diets rich in proteins, minerals and vitamins for pregnant women. Surveys of the diets of pregnant women, carefully carried out by trained workers are very few.

The chart opposite shows the results of special surveys of diets of pregnant women carried out by the National Institute of Nutrition, Hyderabad.

The diets of pregnant women are not much different from the usual diets of the non-pregnant women, and are grossly deficient in protective foods like milk, pulses, leafy vegetables and even in the staple cereals.

DIETS OF PREGNANT WOMEN

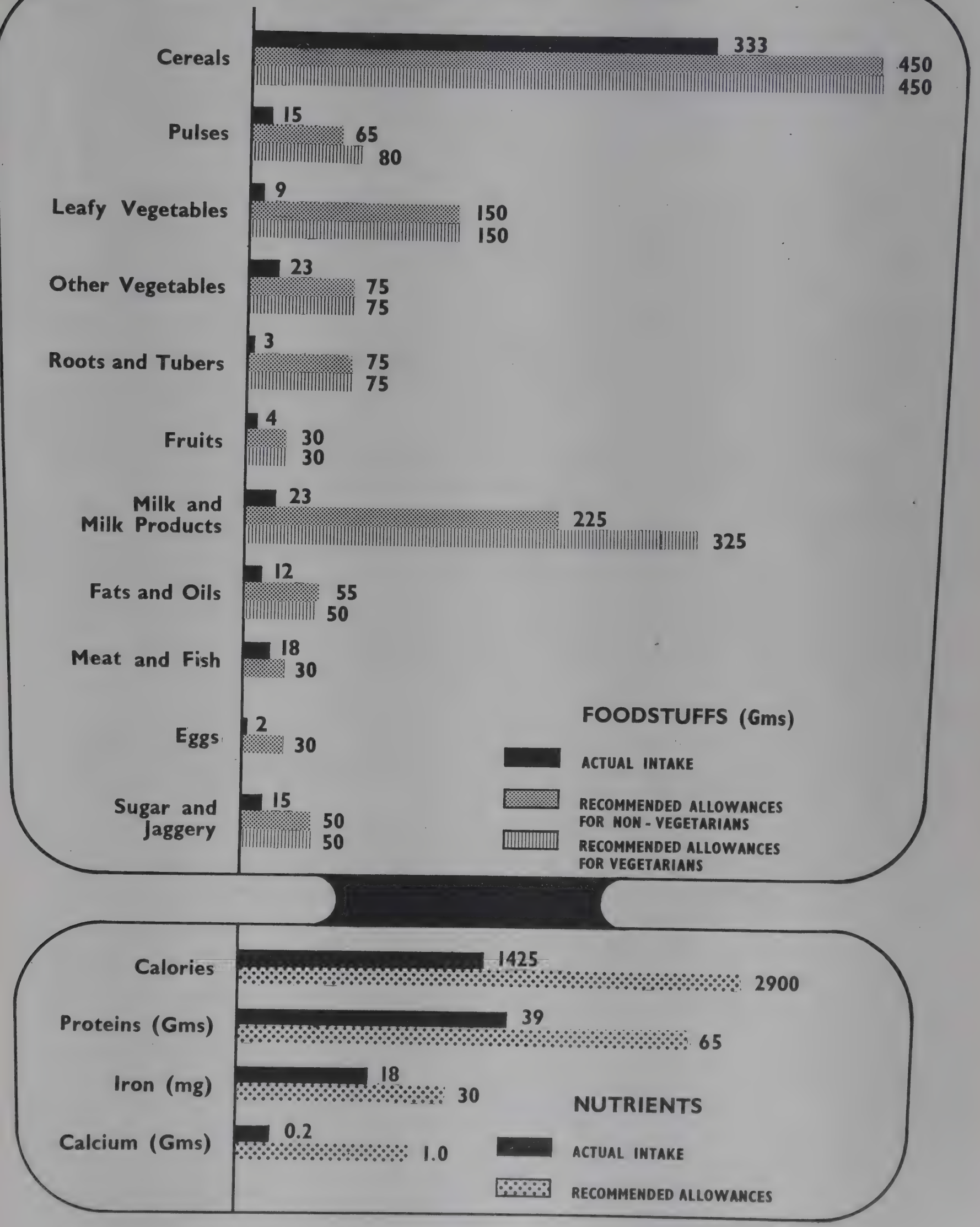


Source of data: Leela Iyengar (1969), Nutrition, Vol. 3 No. 3, p - 2.

DIETS OF NURSING WOMEN

The Nutrition Expert Group recommended specially increased allowances of nutrients like proteins and vitamins for lactating women. The few surveys on diets of nursing women carried out by the National Institute of Nutrition, Hyderabad, however, indicate the woeful inadequacy of the diets even in the staple cereal and other protective foods. Data on the prevalent dietary pattern of nursing women and the nutritive value of these diets are presented in the chart opposite.

DIETS OF NURSING WOMEN



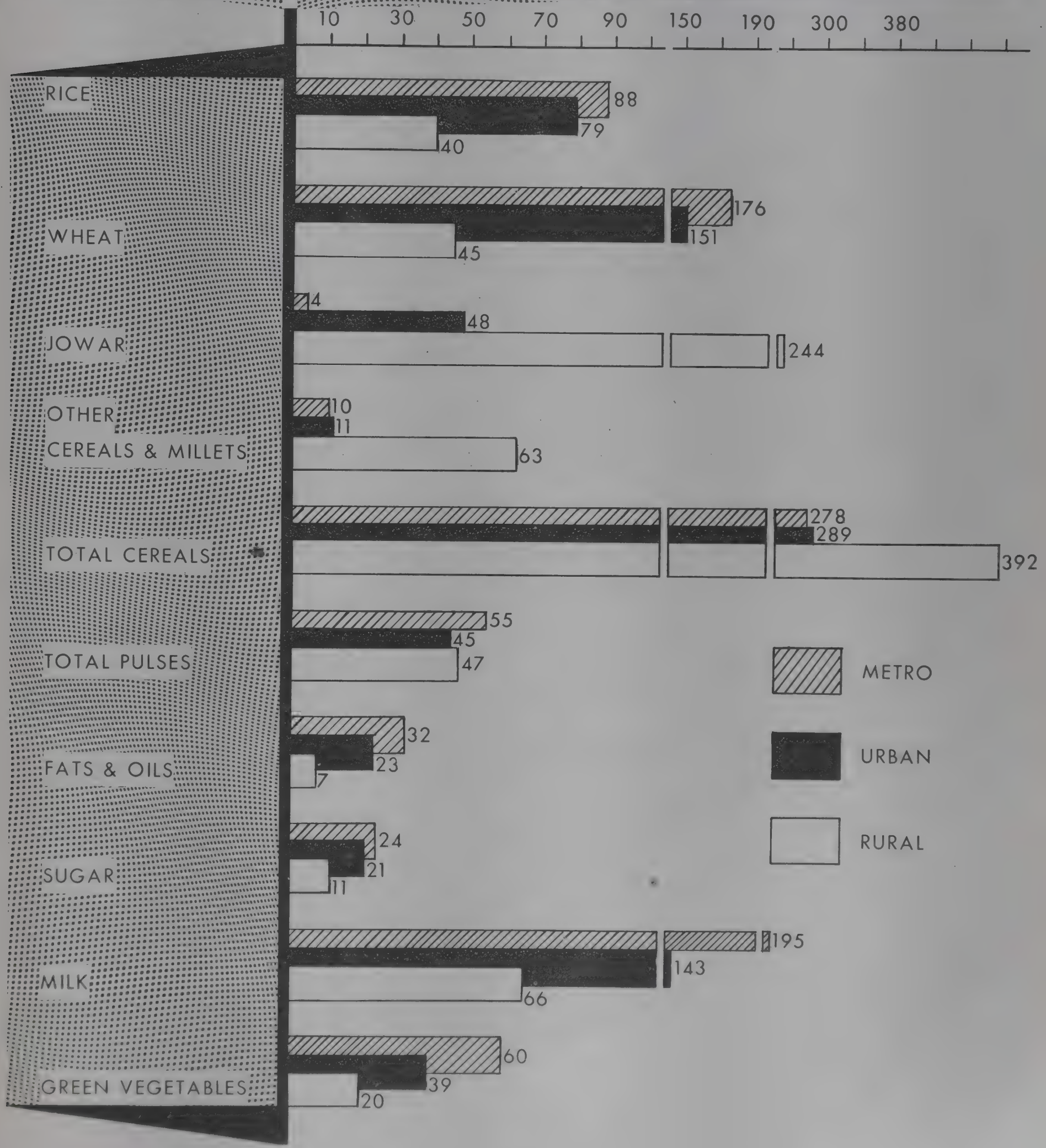
Source of data: Annual Report, Nutrition Research Laboratories 1965-66.

PATTERN OF FOOD CONSUMPTION IN RURAL, URBAN AND METROPOLITAN AREAS OF MAHARASHTRA

Surveys of food consumption in rural, urban and metropolitan areas give interesting information on the pattern of food expenditure in these areas. Such a survey carried out recently in Maharashtra showed that at comparable levels of expenditure, consumption of cereals was higher in rural areas than in urban and metropolitan areas. On the other hand, consumption of protective foods like green leafy vegetables, milk etc., was more in the urban and metropolitan areas than in rural areas.

(See table XVIII)

PATTERN OF FOOD CONSUMPTION IN METROPOLITAN, URBAN AND RURAL AREAS OF MAHARASHTRA (PER CAPUT PER DAY IN Gms.)



DIETARY HABITS OF RURAL, URBAN AND METROPOLITAN AREAS IN MAHARASHTRA

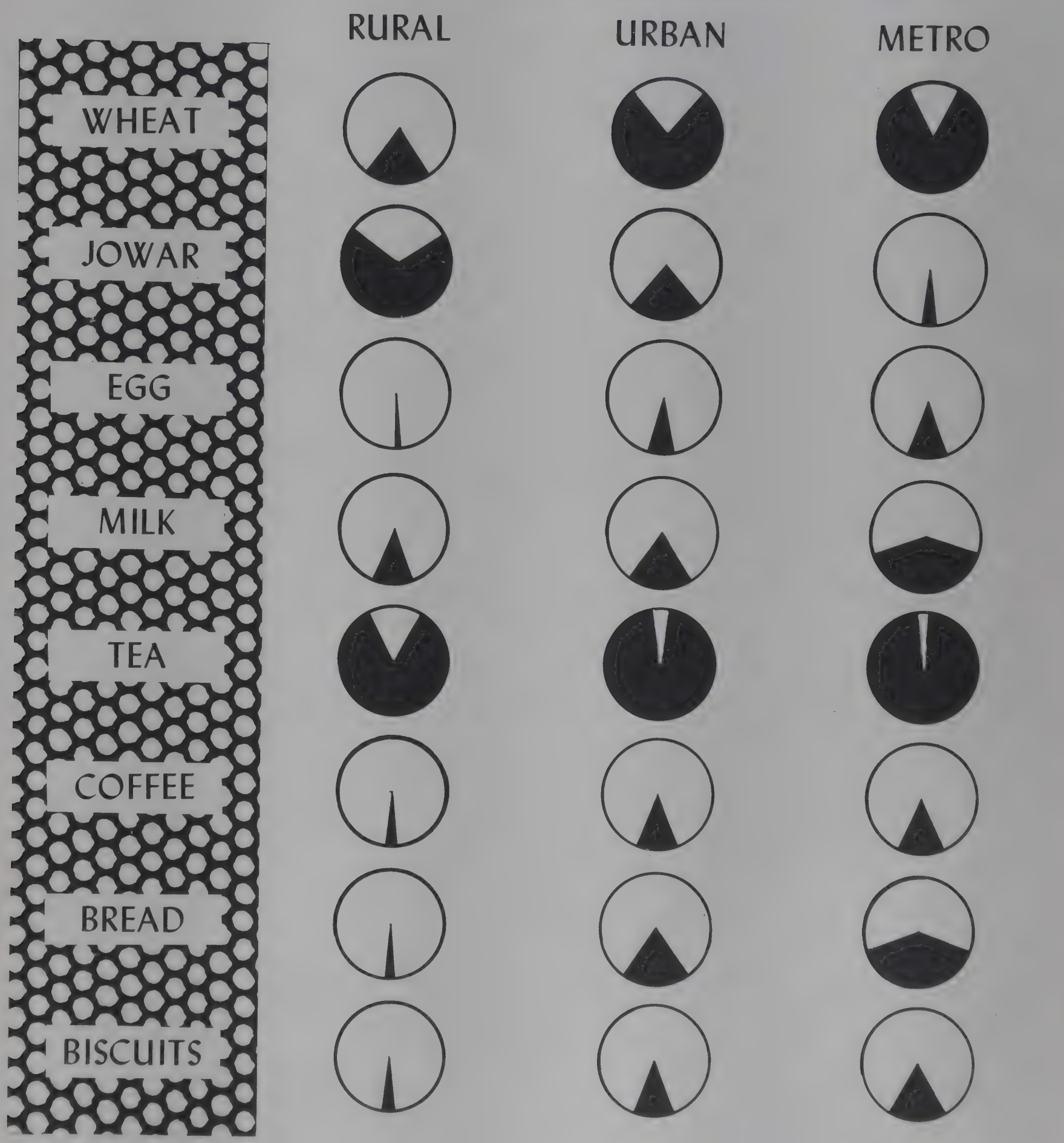
An analysis of the data collected about the food consumption pattern in rural and urban areas in Maharashtra shows that processed foods like bread and biscuits are more popular in urban and metropolitan areas than in rural areas.

The survey also indicates wider use of foods like eggs and milk in urban areas, suggesting the possible movement for commercial purposes of such foodstuffs to the urban and metropolitan areas from rural areas.

Efforts would, therefore, appear to be needed for encouraging increased consumption of protective foods in rural areas.

(See table XIX)

DIETARY HABITS IN RURAL, URBAN AND METROPOLITAN AREAS (MAHARASHTRA)



PERCENTAGE OF FAMILIES CONSUMING SPECIFIED FOODS

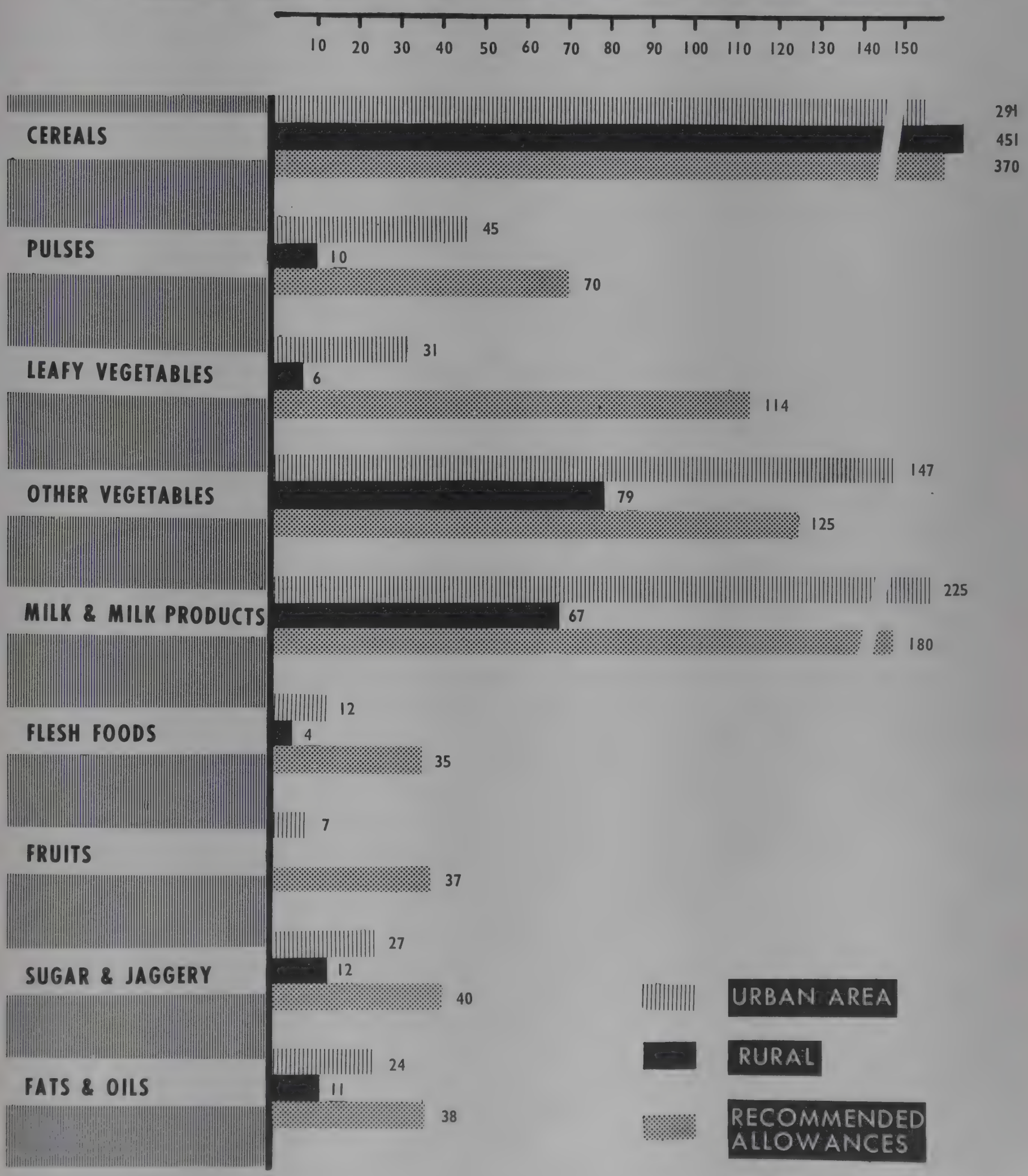
PATTERN OF FOOD CONSUMPTION IN RURAL AND URBAN AREAS AROUND HYDERABAD

The results available from a study carried out by the National Institute of Nutrition, Hyderabad, on the pattern of food consumption in rural and urban population living in and around Hyderabad city are given in the opposite chart.

This survey also shows that consumption of cereals is higher, and that of protective foods like pulses, leafy vegetables, milk products, eggs and flesh foods lower in rural areas compared to urban areas.

(See table XX)

AVERAGE PER CAPUT DAILY INTAKE OF FOODS IN RURAL AND URBAN AREAS AROUND HYDERABAD



DIETS OF TRIBAL POPULATION GROUPS

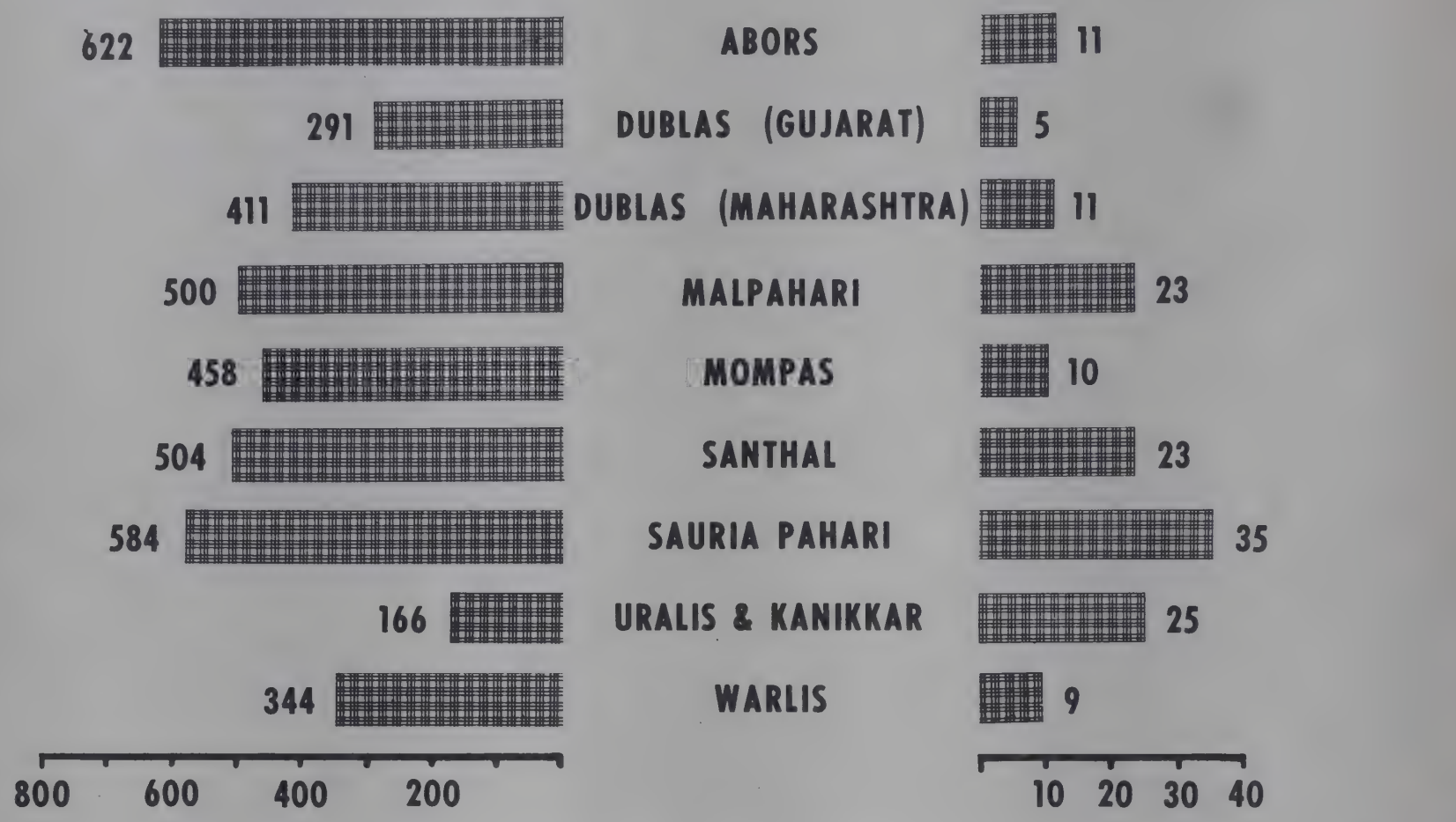
A number of tribal groups exist in different parts of India, and information on the diets of these groups will be helpful in planning any ameliorative measure. The diets of the Abors of Assam, Santhals of Bihar, Uralis of Kerala, Warlis of Maharashtra, Dublas of Gujarat and Mompas of NEFA have been surveyed in recent years and the data obtained are reported in the following pages.

In general, rice and millets form the staple food of most tribes except in the case of Mompas of NEFA who take a little wheat in addition. Alcoholic beverages form a significant proportion of the diet of the Mompas of NEFA who may consume as much as 1.3 litres per head per day. It is interesting to note that the consumption of flesh foods like pork and fish is high among the Onges and Nicobarese, and this contributes to the phenomenally high intake of protein by these groups.

(See tables XXI and XXII)

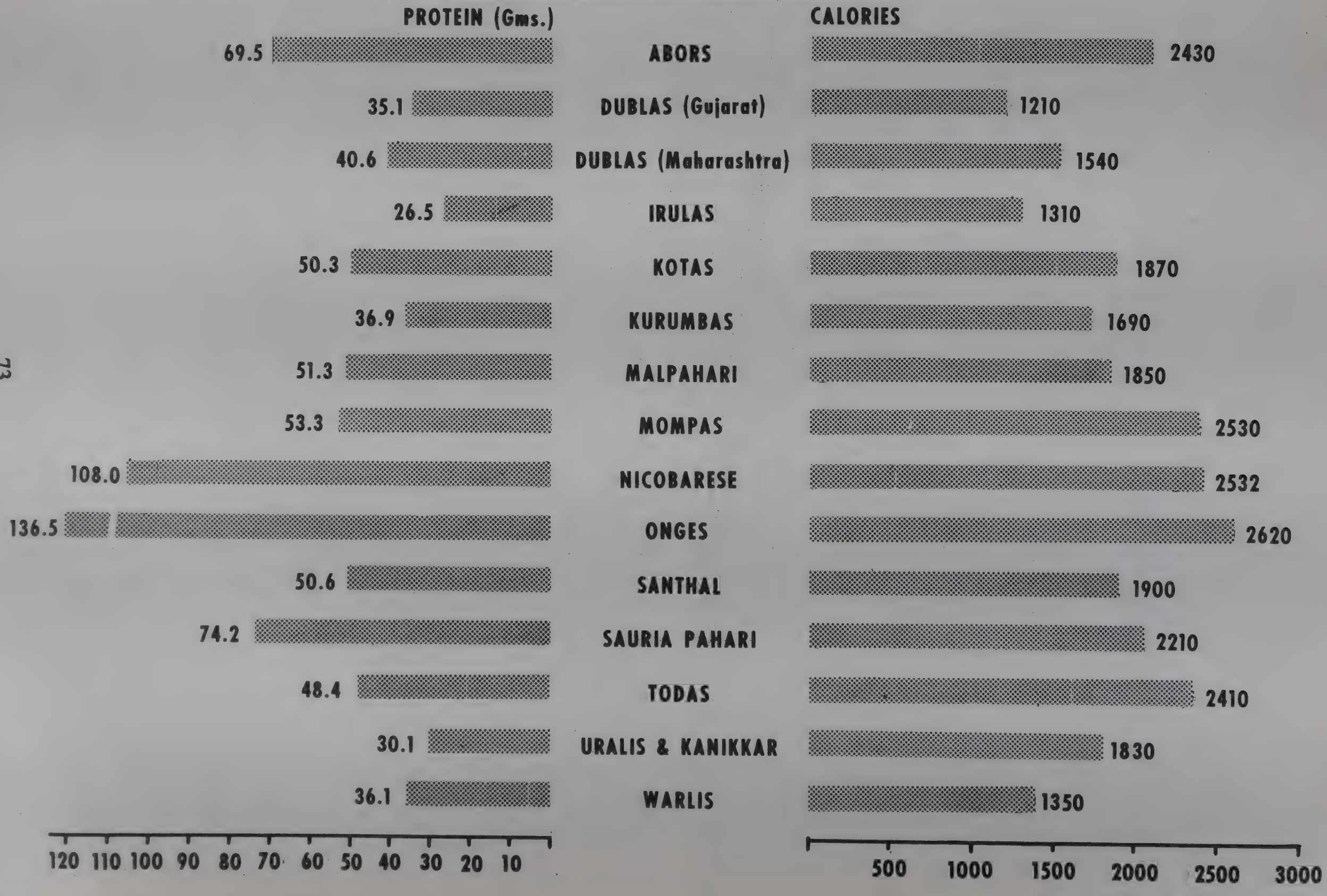
THE TRIBES SURVEYED

DIETS OF TRIBAL GROUPS



(AVERAGE DAILY CONSUMPTION PER PERSON IN GRAMS)

PROTEIN & CALORIE CONTENT OF THE DIETS OF TRIBAL POPULATION GROUPS (Per caput per day)



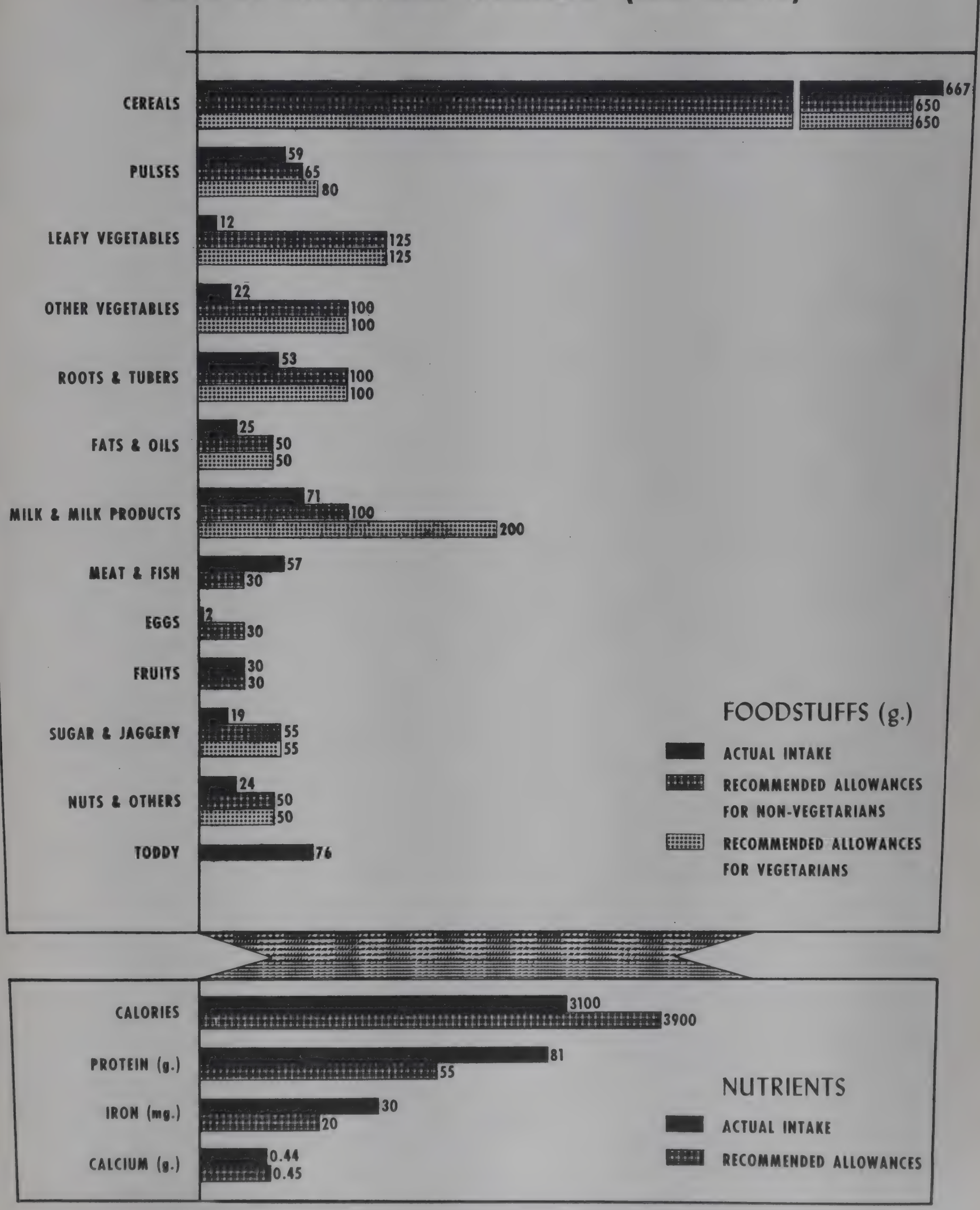
DIETS OF INDUSTRIAL WORKERS
(Coal fillers)

With the increasing tempo of industrialization in the country, the problem of ensuring adequate nutrition to the industrial worker is of vital importance. In this connection, information of the existing pattern of diets among industrial workers is required, but it is scanty.

The results of a study carried out among coal miners in Kothagudem (Singareni collieries), Andhra Pradesh, by the National Institute of Nutrition, Hyderabad, are depicted in the opposite chart. The data show that the diets are inadequate in many respects.

(See table XXIII)

DIETS OF INDUSTRIAL WORKERS (coal miners)



FAMILY SIZE AND NUTRIENT CONTENT OF DIETS OF INDUSTRIAL WORKERS
(Textile workers)

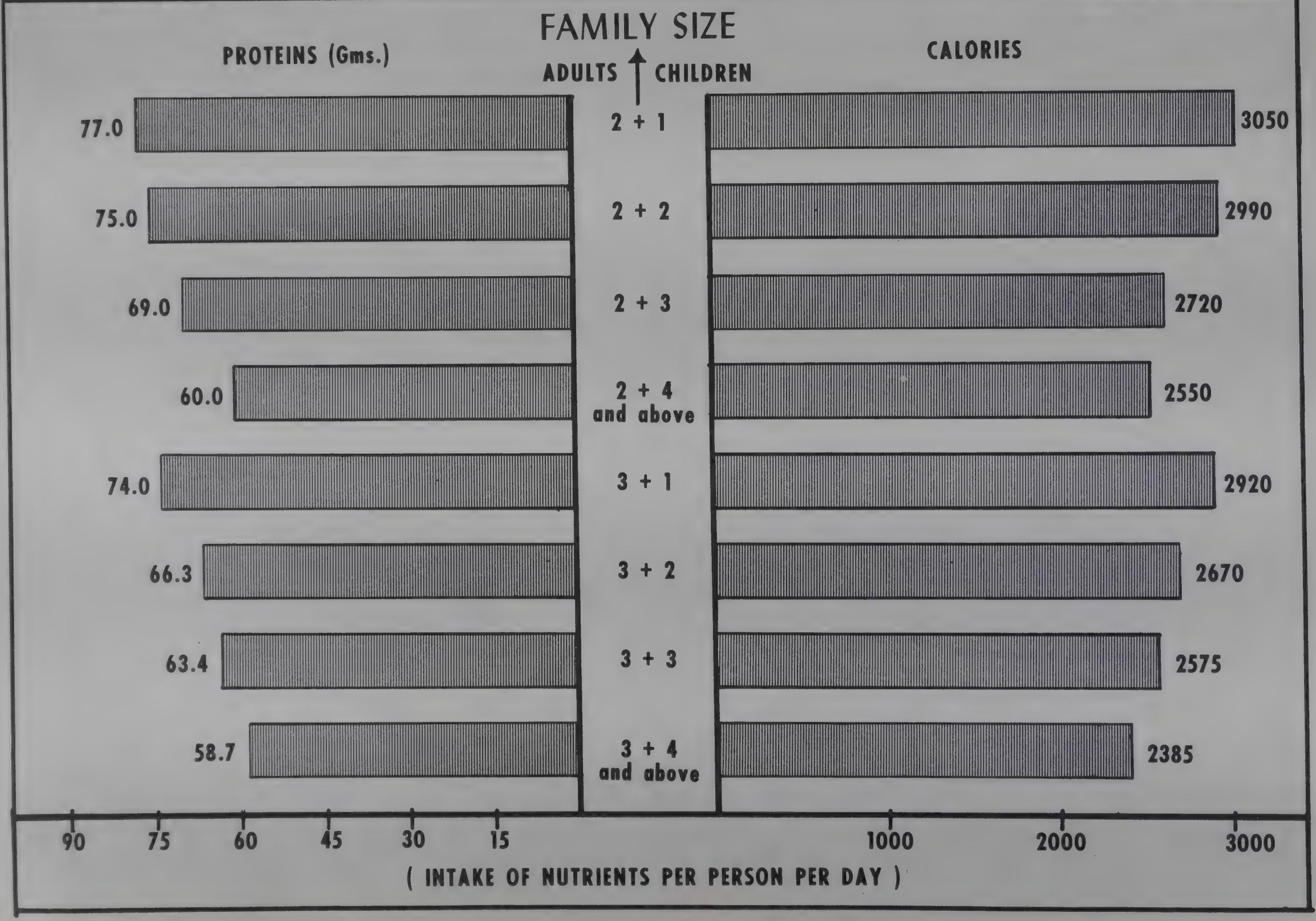
Nutrition workers have often emphasized the need to provide nutritious diets for industrial workers so as to ensure optimum working efficiency. In this connection, the data collected by the National Institute of Nutrition in 1957-58 on the diets of some workers in textile industry may be of interest.

With the present emphasis on family planning, the data have been analysed with a view to identifying any relationship between family size and the nutritive value of the diets.

It was found that in families with less children calorie and protein contents of the diets were more than in the families with more children.

This would serve to highlight the importance of small families. The smaller the family, the better would be the nutritional status.

FAMILY SIZE AND NUTRIENT CONTENT OF DIETS OF INDUSTRIAL WORKERS



DIETS IN DROUGHT AFFECTED AREAS

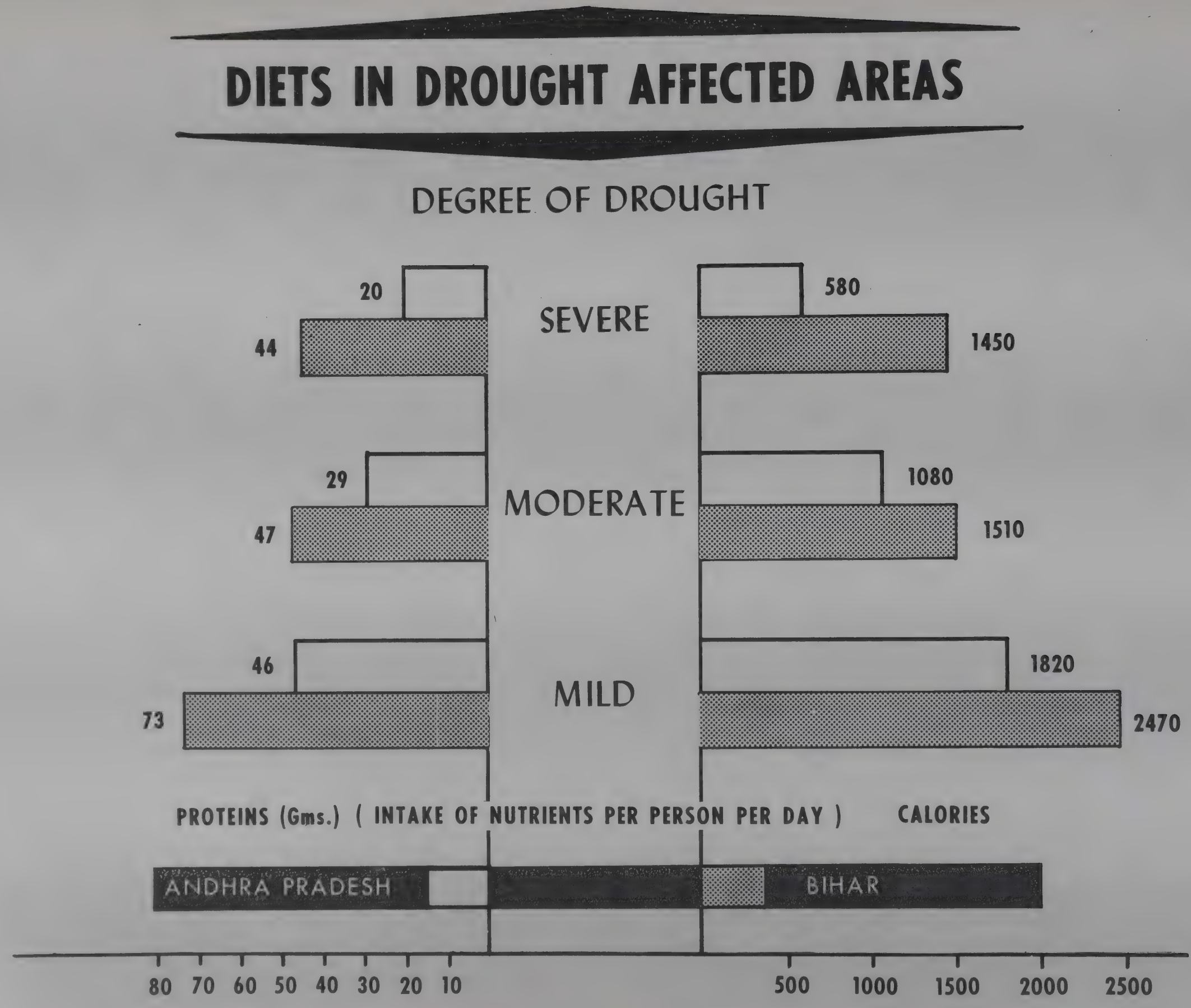
Failure of rains, often in successive seasons, has been a frequent cause of drought and famine in several parts of our country in recent years. In such situations, it is often necessary to indicate priorities with regard to dietary supplements to enable the administration to take appropriate measures.

The droughts in Andhra Pradesh and Bihar afforded opportunities for the National Institute of Nutrition to carry out a detailed survey of the diets in these areas. The principal nutrient deficits that occur in droughts appear to be those of calories, proteins, vitamins A and B-complex. Consumption of several unfamiliar leaves, seeds and tubers is an important feature in the severely affected areas.

Data on the nutritive value of the diets in areas affected by drought to varying extent are presented in the opposite chart.

(See table XXIV)

DIETS IN DROUGHT AFFECTED AREAS



COMPARISON OF INTERNATIONAL DIETS

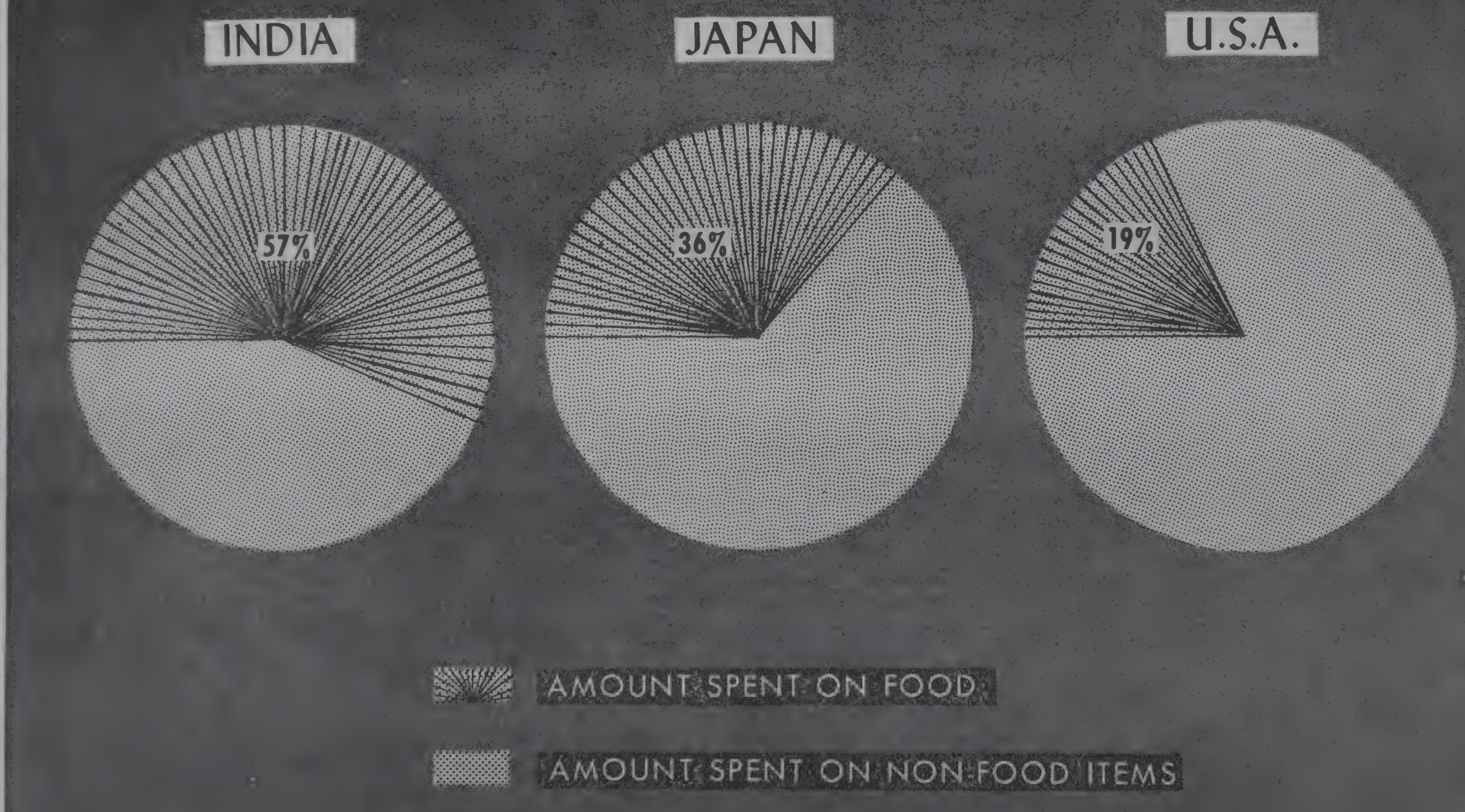
EXPENDITURE ON FOOD IN INDIA AND DEVELOPED COUNTRIES

The expenditure on food as percentage of total income in India, Japan and the United States of America is presented in the opposite chart.

While in India food expenditure constitutes 57% of the total income, it is only 36% and 19% in Japan and U.S.A. respectively.

(See table XXVII)

PERCENTAGE OF TOTAL INCOMES SPENT ON FOOD AND NON-FOOD ITEMS IN INDIA, JAPAN AND UNITED STATES OF AMERICA



COMPARISON OF INTERNATIONAL DIETS

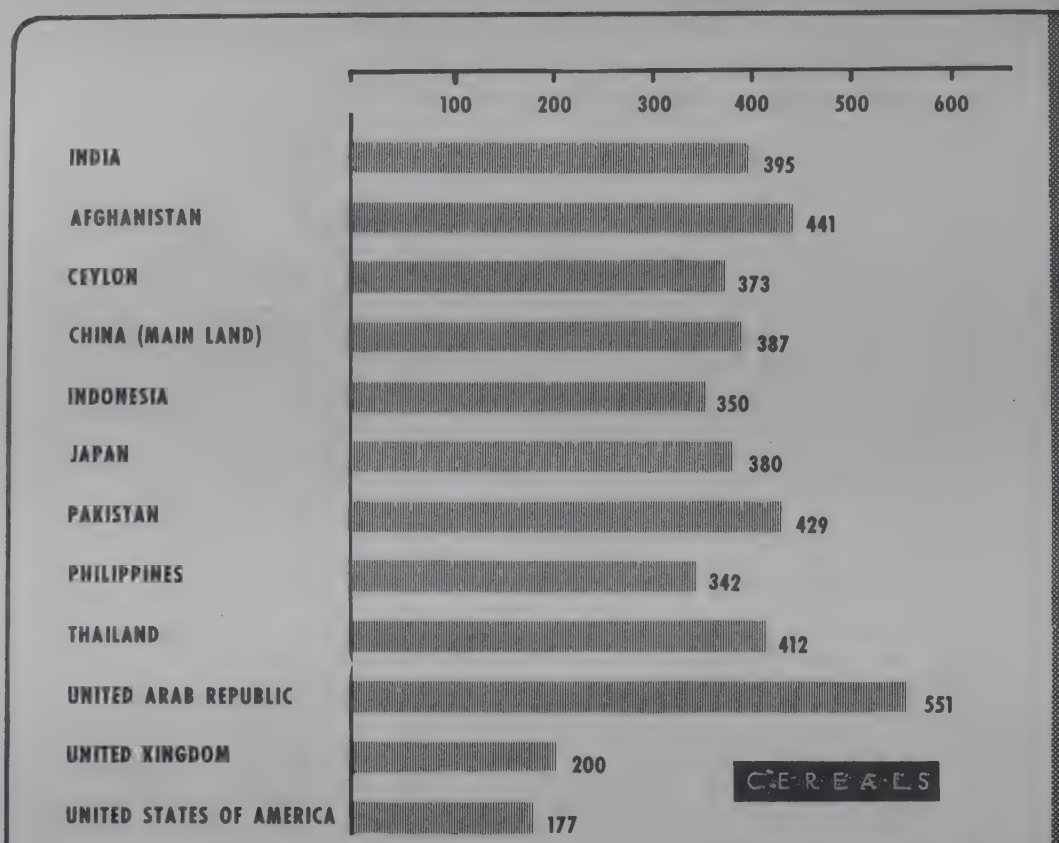
In enunciating nutrition policies or in laying down targets for food production, one often compares the picture in one's country with the picture in other advanced countries or with neighbouring countries. The data relating to population and per caput availability of important classes of foodstuffs in India and in a number of other countries are presented in the following charts.

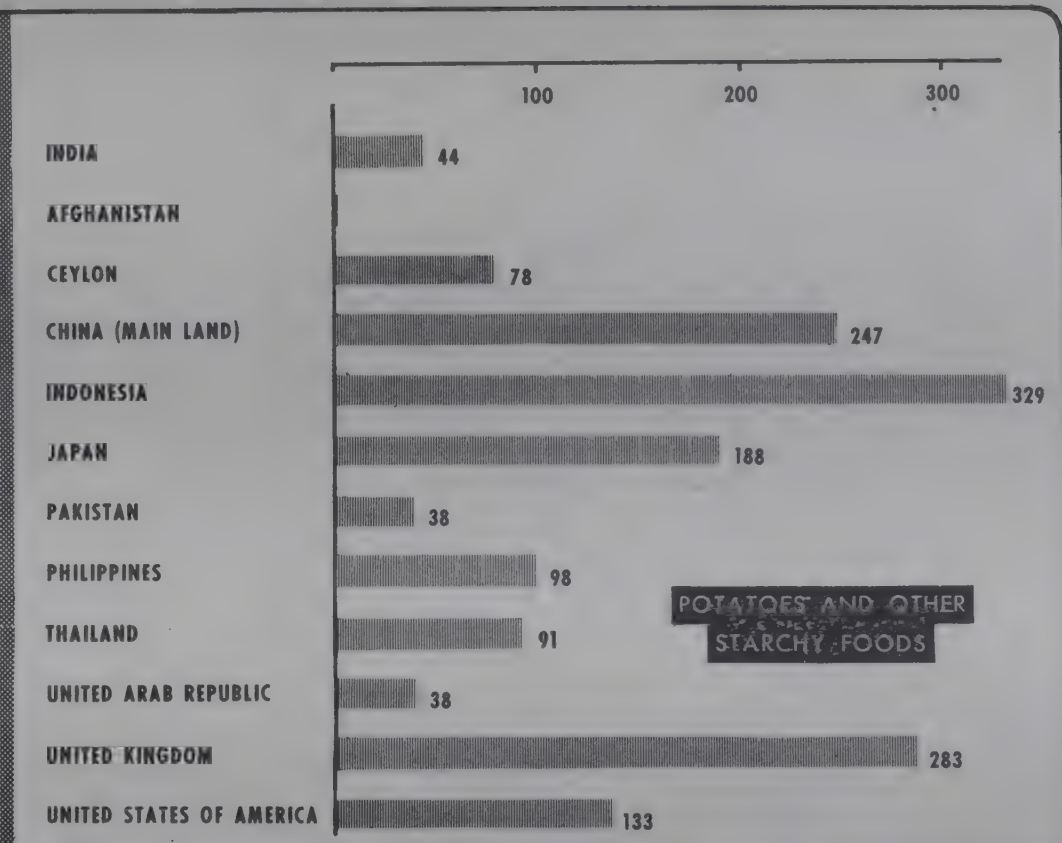
(See tables XXV and XXVI)

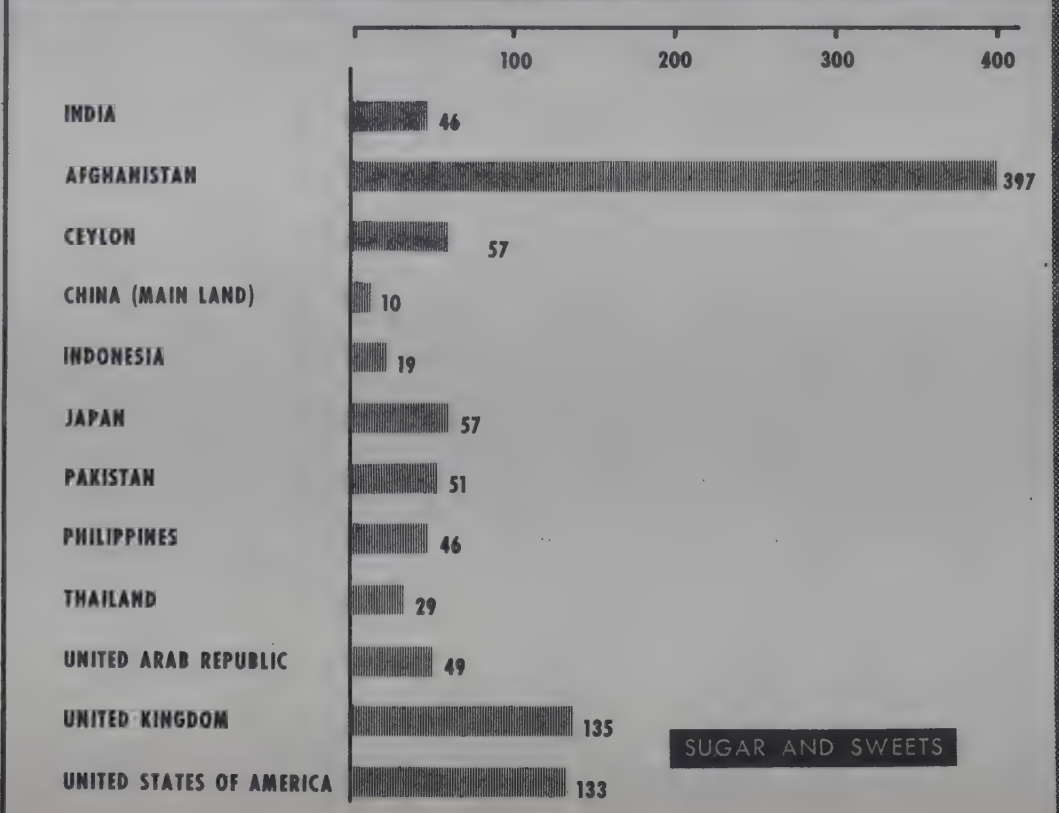
POPULATION OF INDIA AND A FEW OTHER COUNTRIES—1970 (Millions)

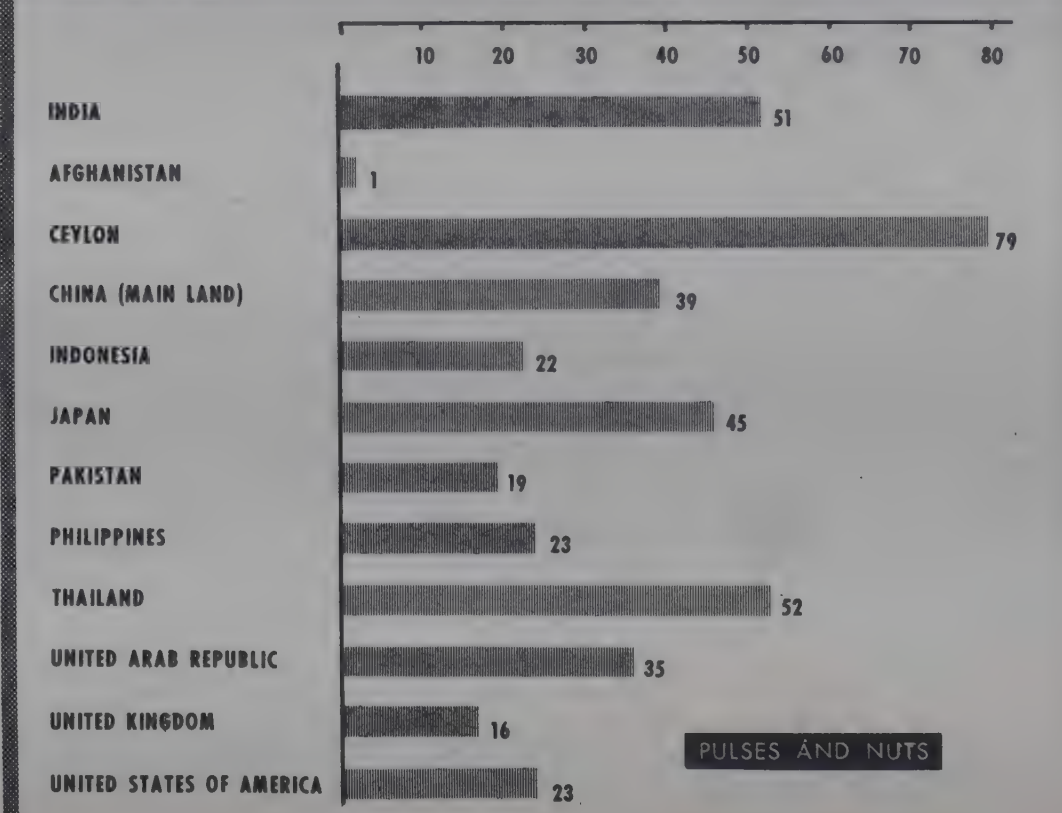
COMPARISON OF INTERNATIONAL DIETS

AVERAGE DAILY INTAKE OF PRINCIPAL FOODSTUFFS (g.)



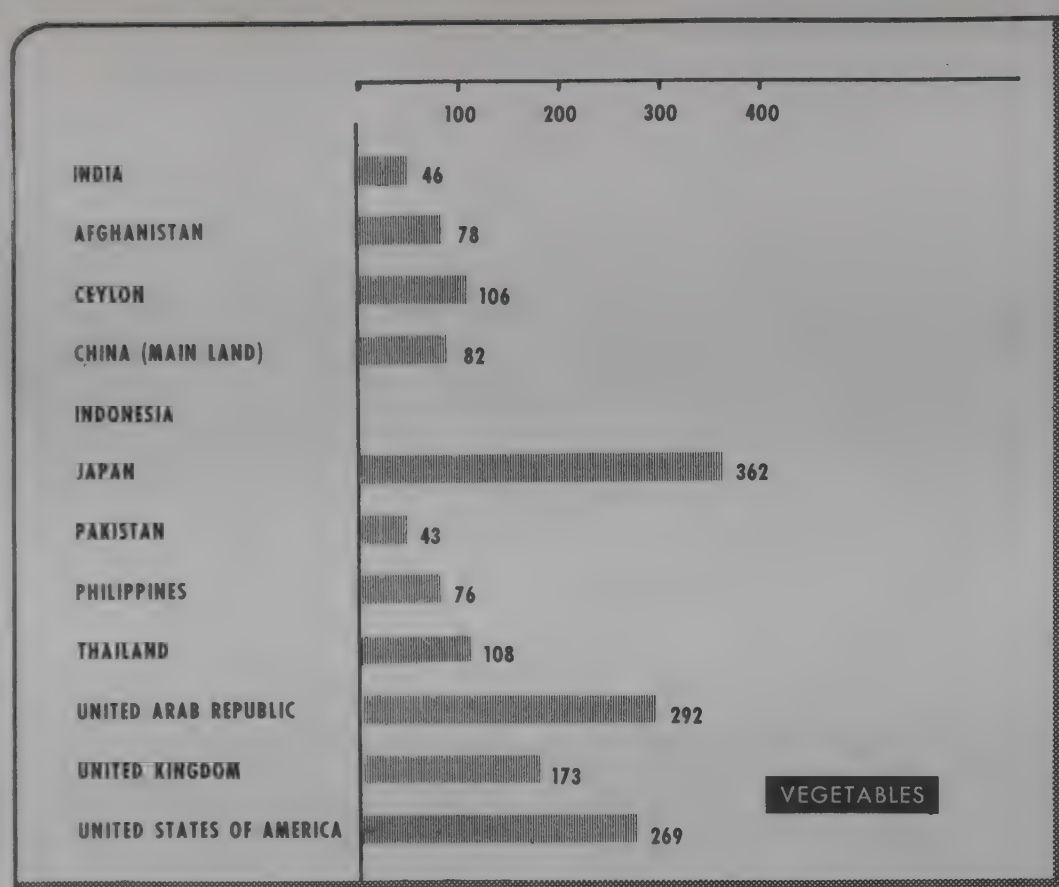


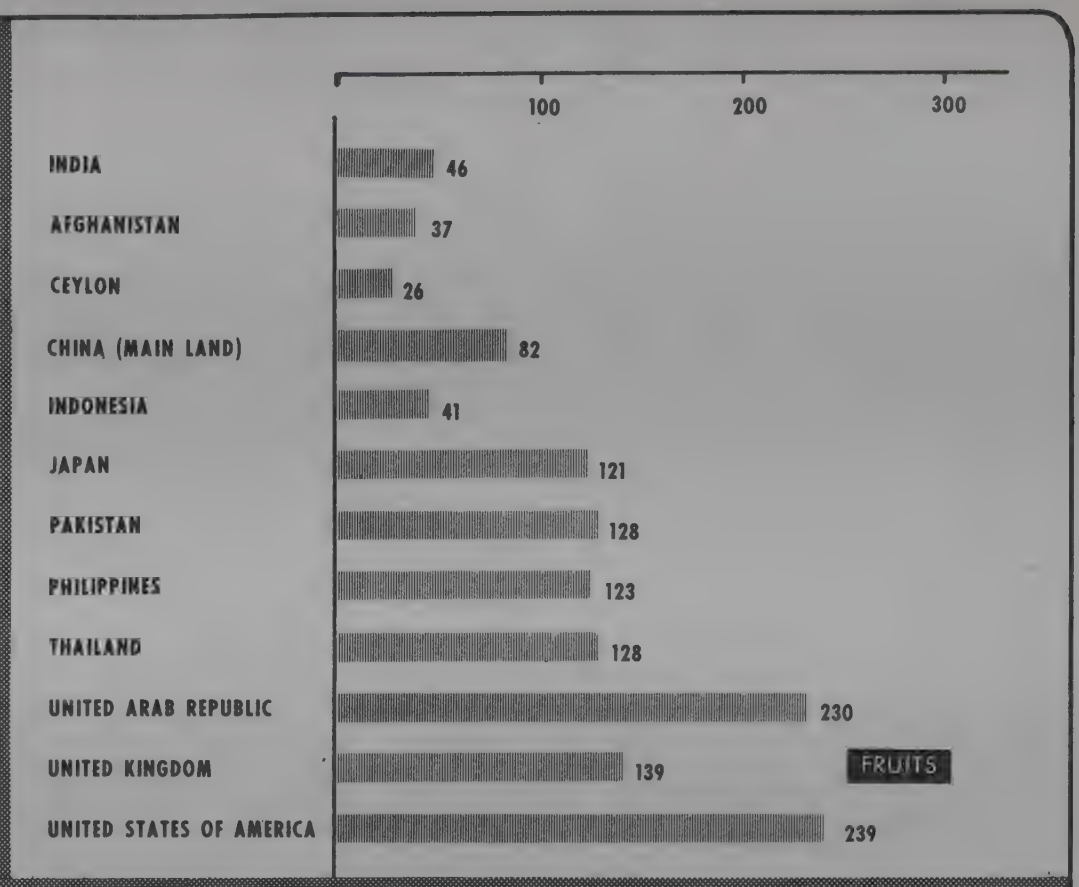


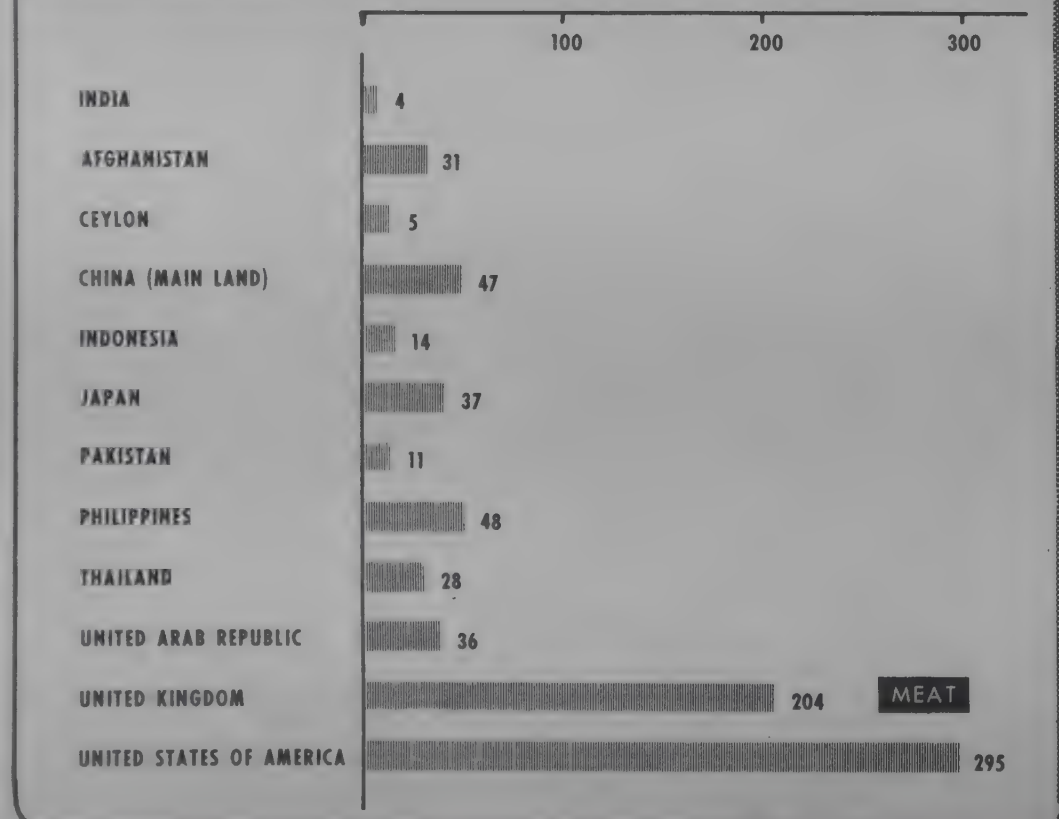


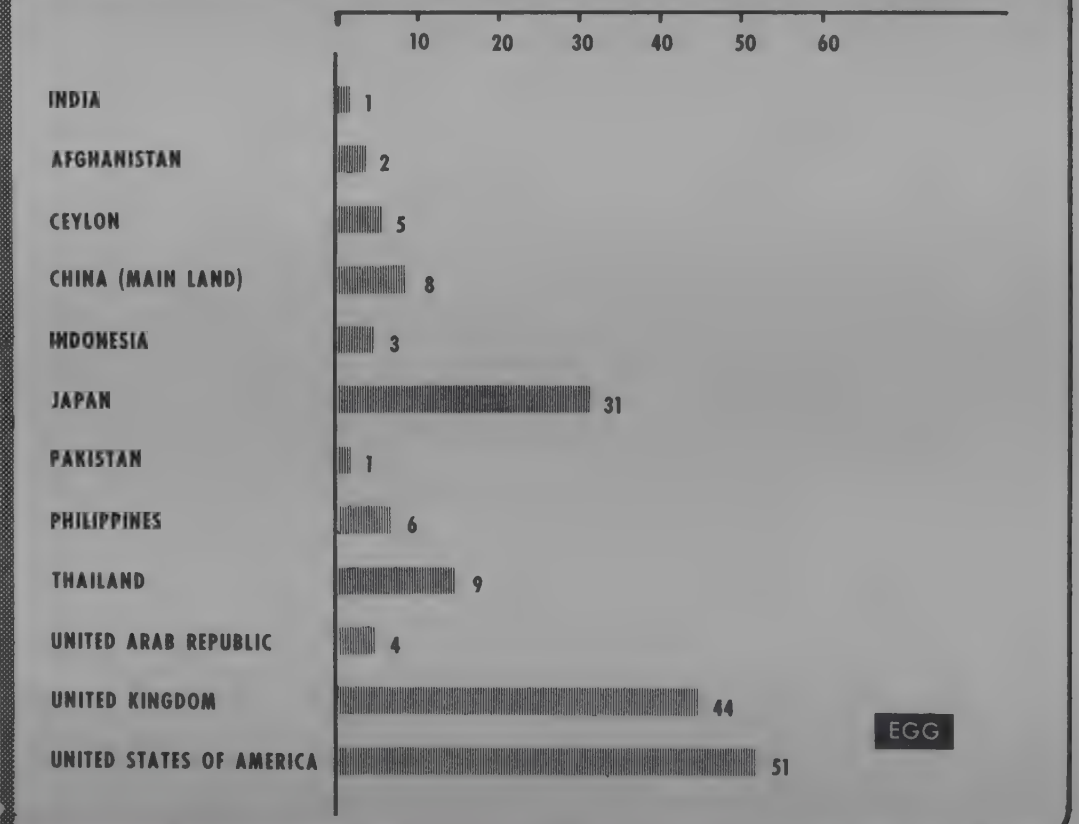
COMPARISON OF INTERNATIONAL DIETS

AVERAGE DAILY INTAKE OF PRINCIPAL FOODSTUFFS (g.)



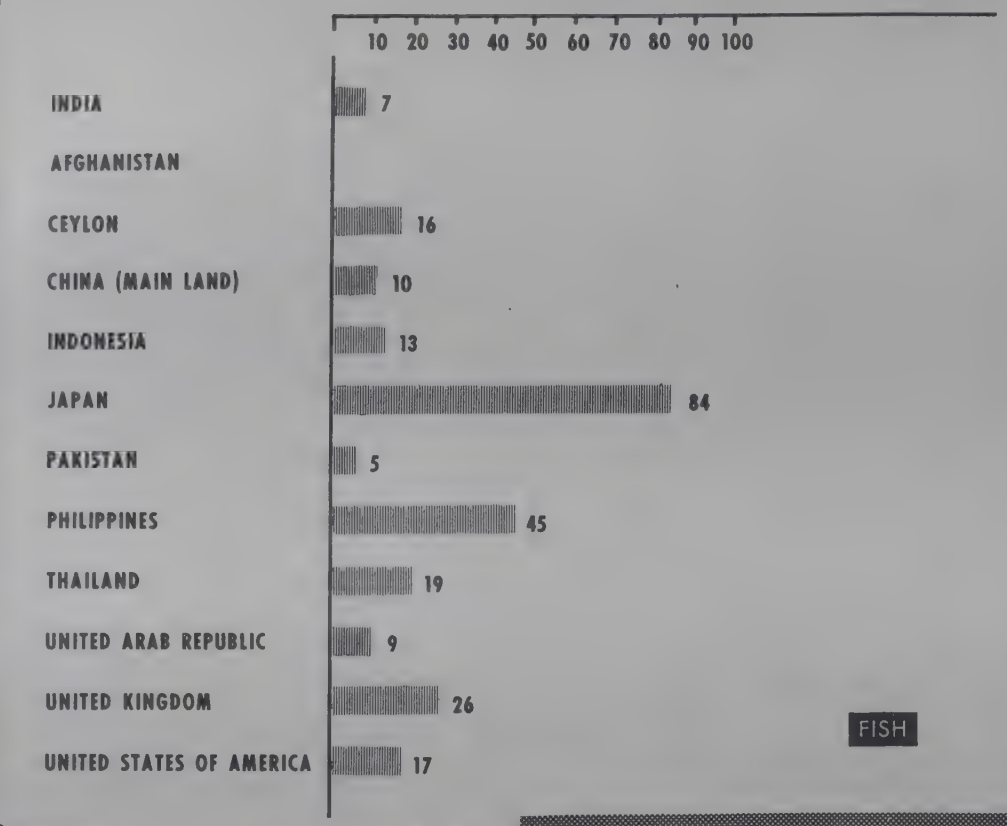


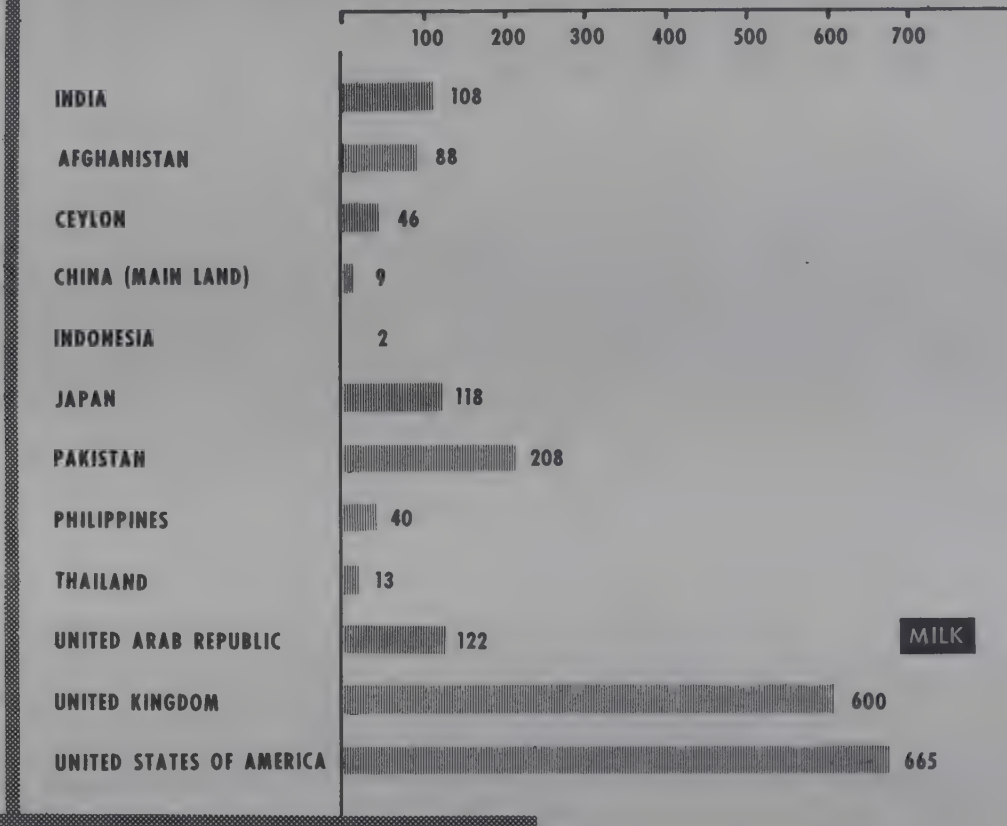


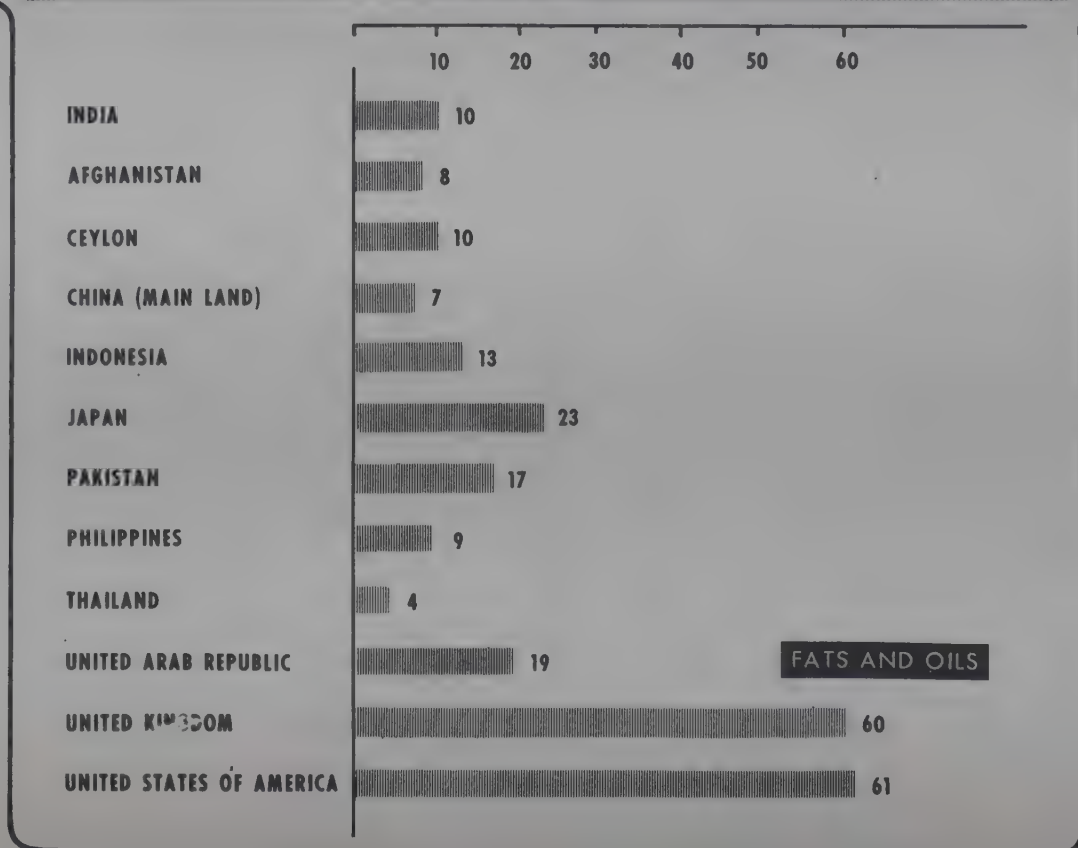


COMPARISON OF INTERNATIONAL DIETS

AVERAGE DAILY INTAKE OF PRINCIPAL FOODSTUFFS (g.)

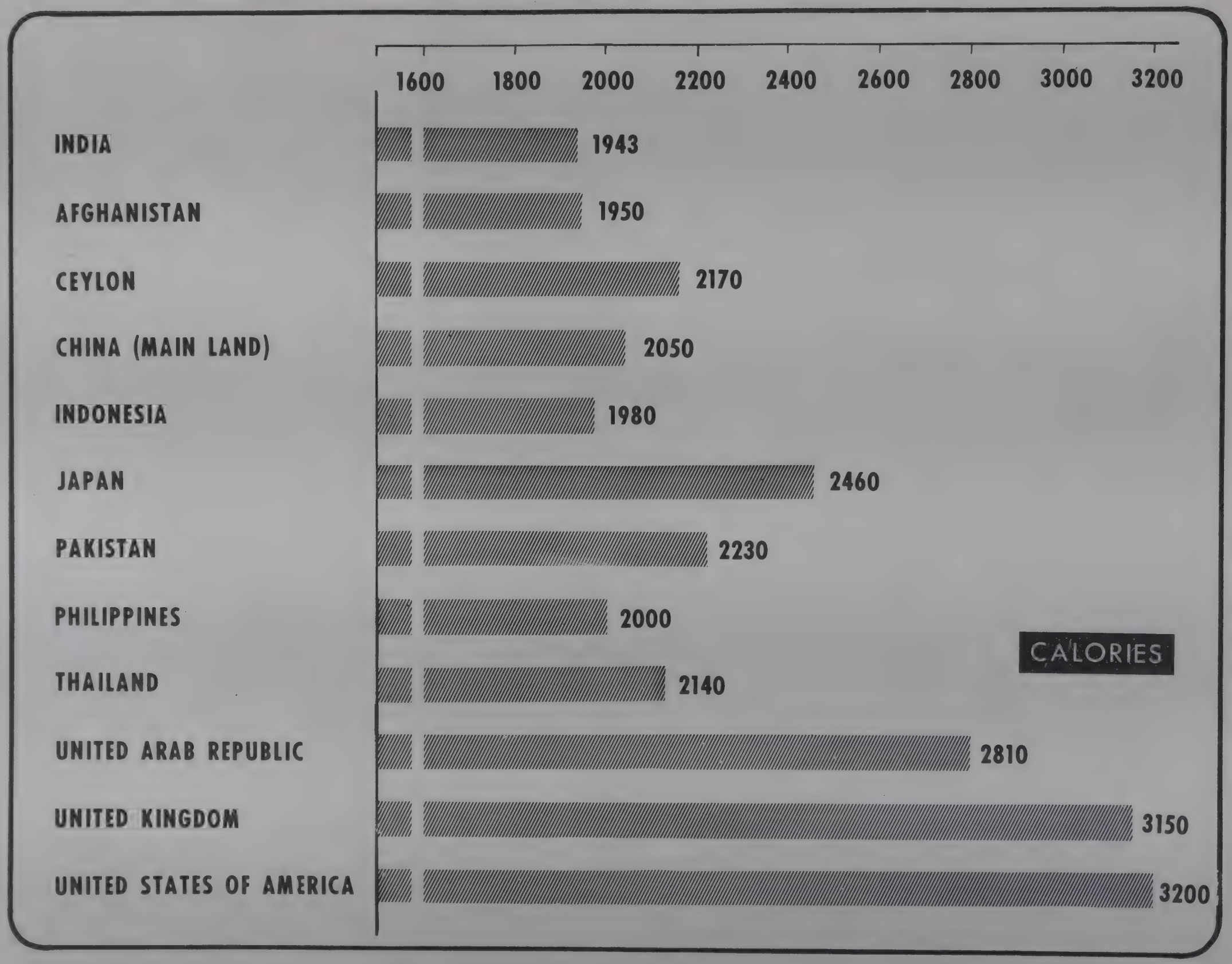






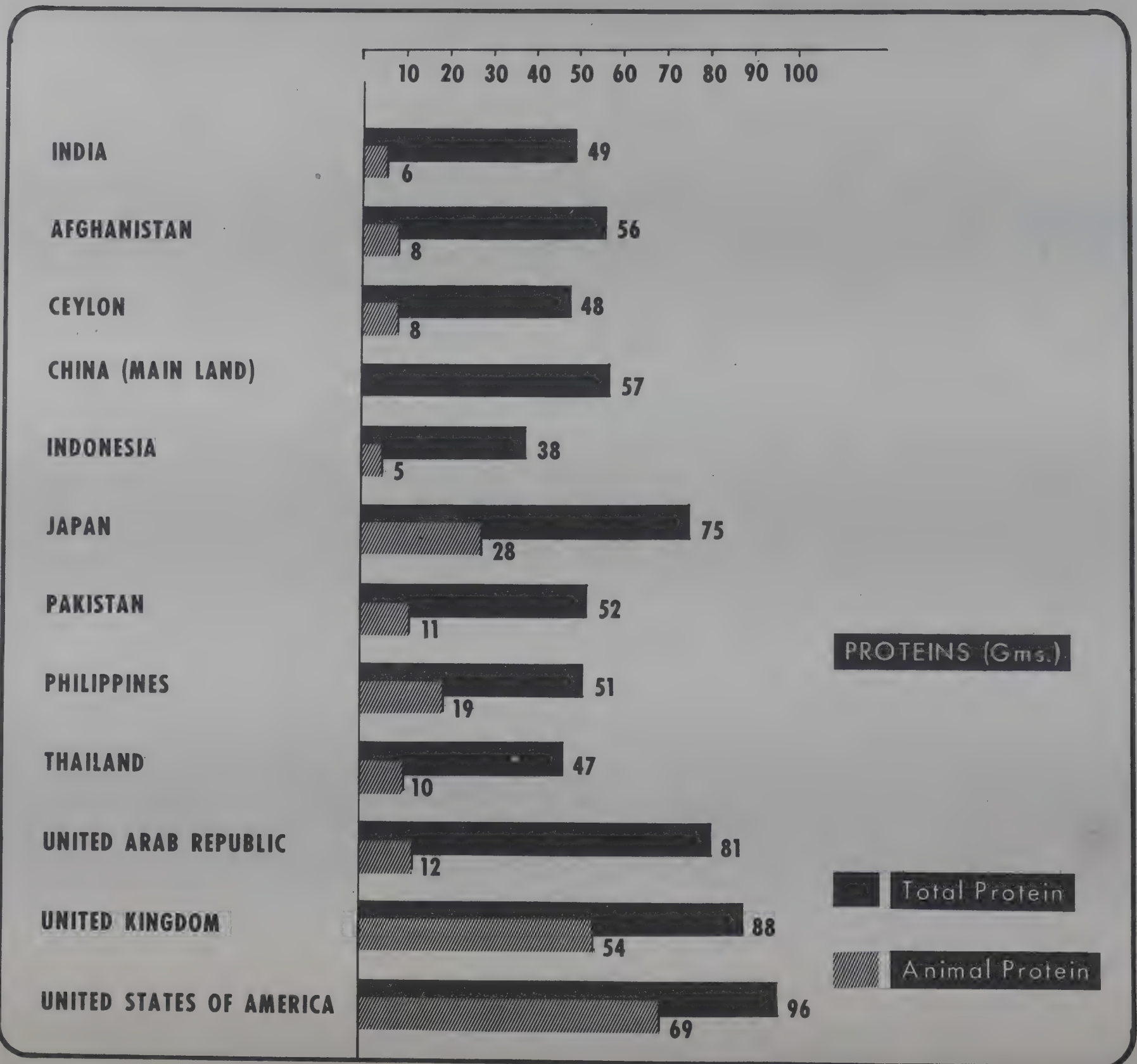
COMPARISON OF INTERNATIONAL DIETS

AVERAGE DAILY PER CAPUT INTAKE OF CALORIES



COMPARISON OF INTERNATIONAL DIETS

AVERAGE DAILY PER CAPUT INTAKE OF PROTEINS (g.)



APPENDIX

Table I

Distribution of Population in India (Sexwise)-1971

State	Millions		
	Males	Females	Total
Andhra Pradesh	21.945	21.450	43.395
Assam	7.814	7.044	14.858
Bihar	28.839	27.548	56.387
Gujarat	13.771	12.889	26.660
Haryana	5.317	4.654	9.971
Himachal Pradesh	1.735	1.689	3.424
Jammu & Kashmir	2.453	2.162	4.615
Kerala	10.539	10.741	21.280
Madhya Pradesh	21.352	20.098	41.450
Maharashtra	26.024	24.271	50.295
Mysore	14.911	14.313	29.224
Nagaland	0.276	0.240	0.516
Orissa	11.028	10.907	21.935
Punjab	7.192	6.281	13.473
Rajasthan	13.442	12.282	25.724
Tamil Nadu	20.772	20.331	41.103
Uttar Pradesh	46.897	41.402	88.299
West Bengal	23.488	20.952	44.440
Union Territories			
Andaman & Nicobar islands	0.070	0.045	0.115
Chandigarh	0.147	0.110	0.257
Dadra & Nagar Haveli	0.037	0.037	0.074
Delhi	2.244	1.800	4.044
Goa, Daman & Diu	0.431	0.426	0.857
L. M. & A. islands	0.016	0 016	0.032
Manipur	0.539	0.531	1.070
Meghalaya	0.503	0.480	0.983
N. E. F. A.	0.233	0 212	0.445
Pondicherry	0.237	0.234	0.471
Tripura	0.803	0.754	1.557
ALL INDIA	283.055	263.899	546.954

Source of data: Census of India 1971, Registrar General and Census Commissioner, Government of India, New Delhi.

Table II

Density of Population in Different States (1961 and 1971)

State	Density of population per Sq. Km.	
	1961	1971
Andhra Pradesh ...	131	157
Assam ...	112	149
Bihar ...	268	324
Gujarat ...	112	136
Haryana ...	172	225
Himachal Pradesh ...	51	62
Jammu & Kashmir ...	16	21
Kerala ...	435	548
Madhya Pradesh ...	74	93
Maharashtra ...	129	163
Mysore ...	123	152
Nagaland ...	22	31
Orissa ...	113	141
Punjab ...	221	268
Rajasthan ...	59	75
Tamil Nadu ...	259	316
Uttar Pradesh ...	250	300
West Bengal ...	394	507
Union territories		
Andaman & Nicobar islands ...	8	14
Chandigarh ...	1052	2254
Dadra & Nagar Haveli ...	117	151
Delhi ...	1792	2723
Goa, Daman & Diu ...	169	225
L. M. & A islands ...	831	994
Manipur ...	35	48
Meghalaya ...	33	44
N. E. F. A. ...	...	...
Pondicherry ...	787	982
Tripura ...	107	149
ALL INDIA ...	138	182

Source of data: Census of India 1971, Paper 1, Registrar General & Census Commissioner, Government of India, New Delhi, p. 51.

Table III

Growth of Population in India

(Millions)

State	1951	1961	1971	1981	Decennial growth rates percentage	
					1951–61	1961–71
Andhra Pradesh	31.115	35.983	43.395	53.050	+ 15.7	+ 20.6
Assam	8.239	11.128	14.858	21.382	+ 35.1	+ 33.5
Bihar	38.786	46.456	56.387	73.669	+ 19.8	+ 21.4
Gujarat	16.263	20.633	26.660	34.589	+ 26.9	+ 29.2
Haryana	5.674	7.590	9.971	13.497	+ 33.8	+ 31.4
Himachal Pradesh	2.386	2.812	3.424	4.692	+ 17.9	+ 21.8
Jammu & Kashmir	3.254	3.561	4.615	4.618	+ 9.4	+ 29.6
Kerala	13.549	16.904	21.280	26.982	+ 24 8	+ 25 9
Madhya Pradesh	26.072	32.372	41.450	51.981	+ 24.2	+ 28.0
Maharashtra	32.002	39.554	50.295	63.609	+ 23.6	+ 27.2
Mysore	19.402	23.587	29.224	37.063	+ 21.6	+ 23.9
Nagaland	0 213	0.369	0.516	0.518	+ 14.1	+ 39.6
Orissa	14.646	17.549	21.935	27.026	+ 19.8	+ 25.0
Punjab	9.161	11.135	13.473	19.799	+ 21.6	+ 21.0
Rajasthan	15.971	20.156	25.724	34.444	+ 26.2	+ 27.6
Tamil Nadu	30.119	33.687	41.103	46.657	+ 11.9	+ 22.0
Uttar Pradesh	63.216	73.746	88.299	113.720	+ 16.7	+ 19.7
West Bengal	26.300	34.926	44.440	58.369	+ 32.8	+ 27.2
Andaman & Nicobar islands	0 031	0.064	0.115	0.139	+105.2	+ 81.1
Chandigarh	0.024	0.120	0.257	0.213	+394.1	+114.4
Dadra & Nagar Haveli	0.041	0.058	0.074	0.091	+ 39.6	+ 28.0
Delhi	1.744	2.659	4.044	6.798	+ 52.4	+ 52.1
Goa, Daman & Diu	0.596	0.627	0.857	0.756	+ 5.1	+ 36.8
Laccadive & Minicoy islands	0.021	0.024	0.032	0.032	+ 14.6	+ 31.9
Manipur	0.578	0.780	1.070	1.675	+ 35.0	+ 37.1
Meghalaya	0.591	0.745	0.983	—	+ 26.0	+ 32.0
N. E. F. A.	0.290	0.337	0.445	0.473	+ 16.2	+ 32.1
Pondicherry	0.317	0.369	0.471	0.549	+ 16.3	+ 27.7
Tripura	0.639	1.142	1.557	2.032	+ 78.7	+ 36.3
ALL INDIA	361.240	439.073	546.954	698.423	+ 21.6	+ 24.6

Source of data :

1. A. Chandrasekhar (1971), Census of India–1971, Series–1, India, Paper 1 of 1971, Provisional population totals, Office of the Registrar General of India, Ministry of Home Affairs, Govt. of India, New Delhi, pp. 50–51.
2. Bulletin on Food Statistics, Twentieth Issue, 1970, Population Statewise (Mid year estimates) for the year 1981; Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development & Cooperation, New Delhi, p. 8.

Table IV

Production of Foodstuffs in India (1970)

(Million tons)

I. Foodgrains		
a) Cereals:		
Rice	...	40.43
Wheat	...	20.09
Jowar	...	9.72
Bajra	...	5.33
Maize	...	5.67
Ragi	...	2.12
Barley	...	2.72
Small millets	...	1.73
Total cereals	...	87.81
b) Pulses:		
Bengal gram	...	5.55
Red gram	...	1.84
Other pulses	...	4.30
Total pulses	...	11.69
II. Nuts and Oilseeds		
Groundnut (nuts in shell)	...	5.15
Rapeseed & mustard	...	1.51
Sesame	...	0.43
Copra (1968–69)	...	0.80
Cashewnuts (1968–69)	...	0.18
III. Flesh Foods		
Fish (1969)	...	1.58
Eggs (1966–67)	...	21.52 (million eggs) (or) 0.09 million tons (approx.)
Meat (1966-67)	...	0.74
IV. Fruits		
Banana (1968–69)	...	3.01
Papaya (1968–69)	...	0.21
Others (1966–67)	...	8.43
V. Sugarcane (Sugar & Gur)	...	13.44
VI. Milk (1966–67)	...	21.20
VII. Vegetables (1966-67)	...	1.98
VIII. Others		
Potatoes	...	4.09
Sweet potatoes	...	1.61
Tapioca	...	5.34
Tea	...	0.06
Coffee	...	0.40
IX. Processed Foods		
a) Canned fruits (1966-67)		0.02
,, vegetables (1966–67)		
,, jam, jelly & marmalades (1966–67)		
b) Biscuits & confectionery	...	0.07

Source of data:

1. Central Statistical Organisation, Deptt. of Statistics, Cabinet Secretariat, New Delhi, 1969 (Private communication).
2. Estimates of Area & Production of principal crops in India (1969–70), Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development & Cooperation, Government of India, 1970.
3. Bulletin on Food Statistics, Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development & Cooperation, Government of India, 1970.
4. Directorate of Economics & Statistics, Ministry of Food & Agriculture, Government of India, New Delhi, 1971 (Private communication).

Table V

Trends in Food Production in India

	1950–51	1955–56	1960–61	1965–66	1969–70	1975* (target)
Total food production: *(million tons)*						
Rice	20.6	27.6	34.6	30.6	40.4	55.5
Wheat	6.5	8 8	11.0	10.4	20.1	27.5
Millets & other cereals	15.3	19.4	23.7	21.4	27.3	37.0
Total cereals	42.4	55.8	69.3	62.4	87.8	120.0
Pulses	8.4	11.0	12.7	9.9	11.7	16.0
Oilseeds	5.1	5 7	7.0	6 4	7.6	10.5
Per caput production/day (gm)						
Rice	156	190	214	168	201	245
Wheat	49	61	68	57	100	121
Millets & other cereals	116	134	147	118	136	163
Total cereals	320	384	429	343	437	529
Pulses	64	76	79	54	58	71
Oilseeds	39	39	43	35	38	46

Source of data : 1. Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development & Cooperation, Government of India, New Delhi (1970); Estimates of Area & Production of principal crops in India, 1969–70 (Summary tables).

2. –do– Bulletin on food statistics (twentieth issue) 1970.

3. *Economics & Statistical Adviser, Ministry of Food & Agriculture, Government of India, New Delhi (1970). (Private communication).

Table VI

Food available for consumption

Average Daily Availability of Foodstuffs per person :

The Nutrition Expert Group of the Indian Council of Medical Research, taking into account the nutritional requirements of different segments of the population and the expected availability of foodstuffs in the country in the near future, recommended typical balanced diets suitable for vegetarians and non-vegetarians in the different segments of the population such as pre-school children, adolescents, men and women. Also, typical balanced diets suitable for men and women with varying degrees of activities and for pregnant and lactating women have been suggested.

In planning food policies and targets for food production, it becomes necessary to have a single schedule of diet which will allow due weights for the distribution of the population in different age and sex groups and occupations.

Based on the recommendations suggested by the Nutrition Expert Group, a schedule for a balanced diet per person in India has been calculated. These calculations are based on the following considerations and assumptions :

(a) The percentage of population in each group was assumed to be the same as that of the all India population in 1961. The data from 1961 census were used for this purpose.

(b) The occupational status of the adult population was assumed to be equally distributed among those engaged in sedentary, moderate and heavy activities.

(c) The pericd of lactation of an average Indian mother was assumed to be two years. Accordingly, the population in the age group 0–2 years was taken as an estimate of the total number of lactating women in the population.

(d) For estimating the number of pregnant women, the birth rate in the year 1961 was used.

The weighted average for each of the individual foodstuffs recommended in the balanced diet for each segment of the population was calculated and this was used to arrive at a final estimate of a schedule of balanced diet for the vegetarians and non-vegetarians in India. The composition of the vegetarians and non-vegetrians in India was assumed to be in the proportion of 28 : 72 as was reported by the National Sample Survey (See pages 48–49). The detailed calculations which have been used to arrive at this single schedule for a balanced diet per person in India are given in the following tables.

Table VI–A

Calculation of Average Indian Balanced Diet – Vegetarian

Details	Pre-school Children		School Children		Boys & Girls	Adults		Allowances for		Total [1]	Average [2]
	1–3 yrs.	4–6 yrs.	7–9 yrs.	10–12 yrs.	13–18 yrs.	Males	Females	Pregnancy	Lactation		
Percentage of population	**9.2**	**9.9**	**8.3**	**8.0**	**10.9**	**27.7**	**26.0**	**4.2**	**6.1**		
SUGGESTED BALANCED DIET											
Foodstuffs (gm.)											
Cereals	150	200	250	320	395	508	375	50	100	369500	369.5
Pulses	60	60	70	70	70	77	67	—	10	68940	68.9
Groundnuts	—	—	—	—	13	17	13	—	—	9510	9.5
Leafy vegetables	50	75	75	100	125	117	125	25	25	107360	107.4
Other vegetables	30	50	50	75	157	175	158	—	—	124530	124.5
Fruits	50	50	50	50	30	30	30	—	—	37080	37.1
Milk	300	250	250	250	250	200	200	125	125	240630	240.6
Fats & oils	20	25	30	35	38	42	35	—	15	35400	35.4
Flesh foods	—	—	—	—	—	—	—	—	—	—	—
Sugar & jaggery	30	40	50	50	33	42	33	10	20	40320	40.3

[1] Total $= \sum P_i t_i$ Where P_i is the percentage of population in the $_i$ th population group and t_i is the amount of suggested food for the $_i$ th population group.

[2] Average $= \dfrac{\text{Total}}{\sum P_i} = \dfrac{\text{Total}}{100} = \dfrac{\sum P_i t_i}{\sum P_i}$

Table VI–B

Calculation of average Indian Balanced Diet – Non-vegetarian

Details	Pre-school Children		School Children		Boys & Girls	Adults		Allowances for		Total [1]	Average [2]
	1–3 yrs.	4–6 yrs.	7–9 yrs.	10–12 yrs.	13–18 yrs.	Males	Females	Pregnancy	Lactation		
Percentage of population	**9.2**	**9.9**	**8.3**	**8.0**	**10.9**	**27.7**	**26.0**	**4.2**	**6.1**		
SUGGESTED BALANCED DIET											
Foodstuffs (gm.)											
Cereals	150	200	250	320	395	508	375	50	100	369500	369.5
Pulses	40	50	60	60	50	62	52	—	10	55200	55.2
Groundnuts	—	—	—	—	13	17	13	—	—	9510	9.5
Leafy vegetables	50	75	75	100	125	117	125	25	25	107360	107.4
Other vegetables	30	50	50	75	157	175	158	—	—	124530	124.5
Fruits	50	50	50	50	30	30	30	—	—	37080	37.1
Milk	200	200	200	200	150	100	100	125	125	153730	153.7
Fats and oils	20	25	30	35	43	44	40	—	15	38520	38.5
Flesh foods	30	30	30	30	60	60	60	—	—	49380	49.4
Sugar & jaggery	30	40	50	50	33	42	33	10	20	40320	40.3

[1] Total $= \sum P_i t_i$ where P_i is the percentage of population in the $_i$ th population group and t_i is the amount of suggested food for the $_i$ th population group.

[2] Average $= \dfrac{\text{Total}}{\sum P_i} = \dfrac{\text{Total}}{100} = \dfrac{\sum P_i t_i}{\sum P_i}$

Table VI–C

Calculation of Balanced Diet for India

	Vegetarian		Non-Vegetarian		Over all	
	28.4%		71.6%		100.0%	
Foodstuffs (gm.) :						
Cereals	369.5		369.5		369.5	
Pulses	68.9	78.4	55.2	64.7	59.1	68.6
Groundnuts	9.5		9.5		9.5	
Leafy vegetables	107.4		107.4		107.4	
Other vegetables	124.5		124.5		124.5	
Fruits	37.1		37.1		37.1	
Milk	240.6		153.7		178.4	
Fats and oils	35.4		38.5		37.6	
Flesh foods	—		49.4		35.4	
Sugar and jaggery	40.3		40.3		40.3	

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Table VI–D

Requirements of Calories and Proteins (gm.) per person calculated on the basis of suggested allowances for individual segments of population

	Pre-school Children		School Children		Adolescents		Adults		Allowances for		Total *	Average per person **
	1–3 yrs.	4–6 yrs.	7–9 yrs.	10–12 yrs.	13–15 yrs.	16–18 yrs.	Males	Females	Pregnancy	Lactation		
Population (%)	9.2	9.9	8.3	8.0	5.5	5.4	27.7	26.0	4.2	6.1	100	—
Calories	1200	1500	1800	2100	2350	2600	3033	2367	300	700	235681	2357
Proteins (gm.)	18.3	22.0	33.0	41.0	52.5	55.0	55.0	45.0	10.0	20.0	4431	44.3

* Total $= \sum P_i X_i$, where P_i is the percentage of population in the $_i$ th group and X_i is the amount of calories or proteins suggested for the $_i$ th population group.

** Average $= \dfrac{\text{Total}}{\sum P_i} = \dfrac{\sum P_i X_i}{100}$

Source of data : 1. Census of India, 1961 – Age tables, Paper No. 2 of 1963.

2. "Recommended daily allowances of nutrients and balanced diets" recommended by the Nutrition Expert Group, I. C. M. R. (1968).

Table VI–E

Availability of Food per person per day in India – 1970

Item	Latest year for which data are available	Quantity (gms)
Cereals	1970	395
Pulses	1970	51
Sugar	1969	46
Edible oils	1969–70	10
Milk	1966–67	108
Meat	1966–67	4
Fish	1968	7
Eggs	1966–67	1
Vegetables	1966–67	53
Fruits	1966–67	44
Nutrients		
Calories		1945
Protein : Total (gms)		49.0
Animal (gms)		5.5
Fat (gms)		27.0

Source of data: 1. Directorate of Economics and Statistics, Ministry of Food, Agriculture, Community Development and Co-operation, Government of India, New Delhi (Private communication).

2. Registrar General of India, Ministry of Home Affairs, Govt. of India, 1971 (Private communication).

Table–VII

Our Food Needs and Targets (1975)

Foodstuffs	Suggested balanced diets per person per day			Requirement by 1975 (Million Tons)	Targets for production 1975 (Million Tons)
	Vegetarian (gms)	Non–vegetarian (gms)	Overall average (gms)		
Cereals	370	370	370	83.8	120
Pulses	69	55	60	13.6	16
Nuts	10	10	10	2.3	8.1 (1969–70)
Leafy vegetables	110	110	110	24.9	12.4 (1965–66)
Other vegetables	125	125	125	28.3	
Fruits	37	37	37	8.4	10.9 (1965–69)
Milk & milk products	241	154	180	40.8	32.3 (1970–71)
Fats & oils	35	39	38	8.6	2.4 (1965–66)
Sugar & jaggery	40	40	40	9.1	15.0 (1969–74)
Flesh foods	—	50	35	7.9	2.5 (1966–69)

Note: These are requirements for actual consumption by the population; additional allowances for livestock, seeds, wastage and storage losses have to be made in computing targets for production. The expected population by 1975 has been estimated to be 620.7 millions.

Sources of data:

1. Bulletin on Food Statistics, 1970. Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development & Cooperation, Govt. of India, New Delhi.
2. ICMR "Dietary Allowances for Indians, Special Report Series No. 60, National Institute of Nutrition, Hyderabad.
3. Economics and Statistical Adviser, Directorate of Economics, Ministry of Food, Agriculture, Community Development and Cooperation (Deptt. of Agriculture), Govt. of India, New Delhi, 1971 (Private communication).

Table–VIII

How the Rupees is spent

	Percentage of expenditure per person on different items		
	Rural	Urban	Cities
Cereals	36.5	22.2	13.7
Cereal substitutes	4.0	0.1	0.0
Pulses and products	4.5	3.0	2.0
Milk and milk products	7.2	9.4	10.4
Other food items	18.0	24.9	28.2
All food items	70.2	59.6	54.3
Clothing	8.2	6 3	5.0
Fuel & light	6.6	6.3	6.0
Rents	0.2	4.1	7.8
Taxes	0.2	0.6	0.6
Other non-food items	14.6	23 1	26.3
All non-food items	29.8	40.4	45.7
Total consumer expenditure	100.0	100.0	100.0
Family size	5.15	4.59	3.84

Source of data: National Sample Survey, India (1963–64) N. S. S. Report No. 142 pp. 56, 129 & 174, published in 1969 by the Cabinet Secretariat, Govt. of India, New Delhi. Data pertain to 18th round–Feb. 1963 – Jan. 1964.

Table IX

Pattern of cereal consumption based on surveys (1955-69)

State	District in which cereal is consumed						
	Rice	Wheat	Millets	Rice & Wheat	Rice & Millets	Wheat & Millets	Rice, Wheat & Millets
Andhra Pradesh	Guntur			Chittoor	Adilabad Anantapur East Godavari Cuddapah Hyderabad Khammam Krishna Kurnool Mahboobnagar Medak Nalgonda Nellore Srikakulam West Godavari		Karimnagar Nizamabad Visakhapatnam Warangal
Bihar	Dhanbad			Patna			Bhagalpur Champaran Darbhanga Gaya Hazaribagh Monghyr Muzaffarpur Palamau Ranchi Saharsa Saran Santhal Pargana Singhbhum
Gujarat	Surat						Dangs Mehsana

Table IX *(Contd.)*

State	District in which cereal is consumed						
	Rice	Wheat	Millets	Rice & Wheat	Rice & Millets	Wheat & Millets	Rice, Wheat & Millets
Jammu & Kashmir							Doda Baramula
Kerala	Trichur			Alleppey Cannanore Ernakulam Kottayam Kozhikode Palghat Quilon			Trivandrum
Madhya Pradesh							West Nimar Raisen
Maharashtra				Bombay			Kolaba Parbhani Poona Thana
Mysore					Bangalore Canara, South Chickmagalur Chitradurga Coorg Hassan Kolar Mandya Mysore Shimoga Tumkur		Belgaum Bellary Bidar Bijapur Canara North Dharwar Gulbarga Raichur

Table IX *(Contd.)*

State	District in which cereal is consumed						
	Rice	Wheat	Millets	Rice & Wheat	Rice & Millets	Wheat & Millets	Rice, Wheat & Millets
Punjab		Bhatinda		Ferozpur Patiala			Amritsar Gurudaspur Hoshiarpur Kapurthala Rupar Sanghrur Ludhiana
Rajasthan		Ajmer Sirohi	Sikar		Churu	Alwar Bharatpur Bikaner Bhilwara Ganganagar Jaipur Jhumjhumu Jodhpur Nagaur Pali Sawai Madopur Tonk Udaipur	Kota
Tamil Nadu				Madras			Chingleput Coimbatore Kanyakumari Madurai Nilgiris North Arcot Ramanathapuram Salem South Arcot Thanjavur Tiruchirapalli Tirunelveli

Table IX *(Contd.)*

State	District in which cereal is consumed						
	Rice	Wheat	Millets	Rice & Wheat	Rice & Millets	Wheat & Millets	Rice, Wheat & Millets
Uttar Pradesh						Aligarh Mathura	Agra Almora Azamgarh Ballia Banda Bareilly Basti Chamoli Dehra Dun Deoria Faizabad Farukkabad Gorakhpur Jaunpur Lucknow Mainpuri Meerut Mirzapur Moradabad Nainital Pilibhit Pratapgarh Pithoragarh Rae Bareili Sheranpur Tehri Garwal Uttar Kashi Varanasi
West Bengal				Bankura Birbhum Burdwan Hooghly Howrah Jalpaiguri Midnapur Murshidabad Nadia 24–Parganas Purulia West Dinajpore			

Table X

What the Nation spends on Food

(How the rupee is spent in rural and urban areas)

State	Rural			Urban		
	Expenditure percent on					
	Milk & Products	Food grains	Total food as % of total monthly expenditure	Milk & Products	Food grains	Total food as % of total monthly expenditure
Andhra Pradesh	4	46	68	6	32	62
Assam	4	47	73	7	28	59
Bihar	4	57	76	7	37	67
Gujart	13	38	74	11	24	59
Jammu & Kashmir	10	42	71	12	28	65
Kerala	3	36	66	5	27	63
Madhya Pradesh	7	45	66	11	28	60
Maharashtra	6	39	66	9	20	57
Mysore	5	45	71	7	30	64
Orissa	2	57	75	5	33	64
Punjab & Haryana	22	29	68	16	19	57
Rajasthan	15	40	69	16	24	60
Tamil Nadu	3	41	67	6	28	60
Uttar Pradesh	9	46	70	10	27	59
West Bengal	3	52	76	7	25	61
Union Territories	7	45	73	15	15	53
All India	7	45	70	9	25	60

Source of data : The National Sample Survey Report No. 142, pp. 56–129 published in 1969 by the Cabinet Secretariat, Government of India, New Delhi. Data pertain to 18th round–February 1963 – January 1964.

Table XI–A

Number of Diet Surveys carried out over the Period (1960-69) in India

State	No. of Surveys
Andhra Pradesh	111
Bihar	62
Gujarat	1
Jammu & Kashmir	3
Kerala	37
Madhya Pradesh	2
Maharashtra	9
Mysore	46
Punjab	22
Rajasthan	31
Tamil Nadu	114
Uttar Pradesh	113
West Bengal	24
All India	575

Source of data :

1. Report of Nutrition work done in States (1960-69), National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
2. Annual Report on Nutrition activities carried out in the States & Union Territories–1968 published by Nutrition Cell of the Directorate General of Health Services, New Delhi.

Table XI–B

Diets Surveys – Areas and population covered (1960–69)

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Andhra Pradesh	1. Adilabad	1962, 65	2	1529
	2 Anantapur	1962, 63 & 65	4	1035
	3. Chittoor	1960 & 65	3	391
	4. East Godavari	1961, 62 & 67	3	1448
	5. Guntur	1961, 62, 64, 65, 66, 67 & 68	12	5955
	6. Cuddapah	1962, 66	3	1132
	7. Hyderabad	1962, 65 & 69	7	5372
	8. Nalgonda	1960 & 63	4	889
	9. Kurnool	1961, 63, 65, 66 & 67	16	6931
	10. Nellore	1960, 61, 62 & 64	4	1889
	11. Srikakulam	1962, 63 & 66	3	1889
	12. Nizamabad	1960, 61, 63 & 64	4	1924
	13. Medak	1960, 61, 63, 64 & 65	7	5494
	14. Mahboob-nagar	1962, 63, 64 & 65	6	2930
	15. Warangal	1961, 63, 64 & 65	10	3574
	16. Karimnagar	1960, 62, 63, 64 & 65	7	2666
	17. Khammam	1963, 64 & 65	4	1045
	18. Krishna	1962, 63, 65 & 67	4	2210
	19. Visakha-patnam	1960, 61, 63 & 64	7	3580
	20. West Godavari	1962	1	759
			111	52642
Bihar	1. Bhagalpur	1967	2	396
	2. Champaran	1967	2	370
	3. Darbhanga	1967	3	530
	4. Dhanbad	1961, 65	2	715
	5. Gaya	1964, 67	3	663

Table XI-B *(Contd.)*

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Bihar *(contd.)*	6. Hazaribagh	1961, 63 & 64	3	969
	7. Monghyr	1964	2	839
	8. Muzaffarpur	1967	4	742
	9. Palamau	1964	1	122
	10. Patna	1960	1	70
	11. Ranchi	1961, 62, 64, 65 & 68	14	2011
	12. Saharsa	1961, 63 & 67	5	1003
	13. Saran	1961	1	496
	14. Santhal Pargana	1967	3	634
	15. Singbhum	1960, 61, 62, 64, 65 & 68	16	2963
			62	12523
Gujarat	1. Dangs	1961	1	—
Jammu & Kashmir	1. Doda	1961	2	—
	2. Baramulla	1961	1	177
			3	177
Kerala	1. Alleppey	1966, 67	2	1190
	2. Cannanore	1964, 66	4	1575
	3. Ernakulam	1966, 67	2	1388
	4. Kottayam	1966	3	2191
	5. Kozhikode	1966, 67	3	2239
	6. Palghat	1966, 67	3	1829
	7. Quilon	1963, 64, 66	6	3855
	8. Trichur	1967	4	1478
	9. Trivandrum	1967	10	3568
			37	19313
Madhya Pradesh	1. West Nimar	1964	1	178
	2. Raisen	1964	1	167
			2	345
Maharashtra	1. Bombay	1960	1	234
	2. Kolaba	1964	2	926

Table XI–B *(Contd.)*

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Maharashtra *(contd.)*	3. Parbhani	1965	2	341
	4. Poona	1965	2	278
	5. Thana	1965	2	340
			9	2119
Mysore	1. Bangalore	1968	2	614
	2. Belgaum	,,	2	499
	3. Bellary	,,	1	506
	4. Bidar	,,	3	188
	5. Bijapur	,,	5	958
	6. Canara North	,,	3	311
	7. Canara South	,,	2	966
	8. Chickmagalur	,,	2	1107
	9. Chitradurga	,,	2	N.A
	10. Coorg	,,	1	332
	11. Dharwar	,,	5	1233
	12. Gulbarga	,,	3	693
	13. Hassan	,,	1	331
	14. Kolar	,,	1	841
	15. Mandya	,,	3	2238
	16. Mysore	,,	6	2586
	17. Raichur	,,	2	542
	18. Shimoga	,,	1	211
	19. Tumkur	,,	1	196
			46	14352
Punjab	1. Amritsar	1960, 61, 62, 65, 67 & 68	7	1568
	2 Bhatinda	1967	1	336
	3. Ferozpur	1965, 67	2	501
	4. Gurudaspur	1964, 67	2	584
	5. Hoshiarpur	1967	2	275
	6. Kapurthala	1968	1	335
	7. Ludhiana	1967, 68	2	536

Table XI-B *(Contd.)*

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Punjab *(contd.)*	8. Patiala	1968	2	513
	9. Rupar	1966, 68	2	621
	10. Sanghrur	1966	1	241
			22	5510
Rajasthan	1. Ajmer	1964	2	201
	2. Alwar	1967	1	64
	3. Bharatpur	1967	1	89
	4. Bikaner	1964	2	256
	5. Bhilwara	1962, 67	2	184
	6. Churu	1963	1	76
	7. Ganganagar	1964	1	136
	8. Jaipur	1964, 67	5	437
	9. Jhumjhumu	1962	2	274
	10. Jodhpur	1964	1	140
	11. Kota	1962, 63	2	201
	12. Nagaur	1964, 67	2	229
	13. Pali	1967	1	91
	14. Sawai Madhopur	1963	1	116
	15. Sikar	1963	2	156
	16. Sirohi	1967	1	111
	17. Tonk	1962	2	251
	18. Udaipur	1964, 67	2	149
			31	3161
Tamil Nadu	1. Chingleput	1961, 62, 63, 64, 65 & 67	35	5513
	2. Coimbatore	1963, 64 & 67	7	980
	3. Kanyakumari	1964, 65	6	1024
	4. Madras	1961	1	172
	5. Madurai	1961, 64, 65 & 68	8	1005
	6. Nilgiris	1964	3	447
	7. North Arcot	1961, 62, 63 & 65	10	1498

Table XI-B *(Contd.)*

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Tamil Nadu *(contd.)*	8. Ramanatha-puram	1962, 63, 64, 65 & 68	11	1538
	9. Salem	1965	9	1181
	10. South Arcot	1963, 64	6	903
	11. Thanjavur	1962, 64 & 68	7	928
	12. Tiruchirapalli	1963, 65	4	655
	13. Tirunelveli	1964, 67 & 68	7	820
			114	16664
Uttar Pradesh	1. Agra	1966, 67 & 68	8	482
	2. Aligarh	1965	6	213
	3. Almora	1966, 67	5	612
	4. Azamgarh	1968	1	355
	5. Ballia	1965	1	251
	6. Banda	1967, 68	2	239
	7. Bareilly	1965	5	193
	8. Basti	1962, 63	15	2573
	9. Chamoli	1967	1	251
	10. Dehradun	1966, 67	4	456
	11. Deoria	1967	1	249
	12. Faizabad	1963, 68	3	567
	13. Farukkabad	1968	2	243
	14. Gorakhpur	1962, 64, 65 & 66	23	4005
	15. Jaunpur	1968	1	236
	16. Lucknow	1964, 65	2	541
	17. Mainpuri	1966	3	229
	18. Mathura	1965	3	184
	19. Meerut	1964	1	195
	20. Mirzapur	1967	1	287
	21. Moradabad	1965	8	365
	22. Nainital	1966, 67 & 68	8	977
	23. Pilibhit	1967	1	186
	24. Pratapgarh	1967	1	183

Table XI-B *(Contd.)*

Name of the State	Name of the district	Year of survey	Number of surveys	Population covered
Uttar Pradesh *(contd.)*	25. Pithoragarh	1967	1	166
	26. Rae Bareili	1968	1	212
	27. Sheranpur	1963	1	215
	28. Tehri Garwal	1968	2	518
	29. Uttarkashi	1966	1	256
	30. Varanasi	1967	1	235
			113	15674
West Bengal	1. Bankura	1960	1	240
	2. Birbhum	1964	1	570
	3. Burdwan	1967, 69	4	2260
	4. Hooghly	1967	1	181
	5. Howrah	1967, 68	2	615
	6. Jalpaiguri	1964, 68	2	504
	7. Midnapur	1963, 68	3	828
	8. Murshidabad	1960, 63	2	1022
	9. Nadia	1961, 66	2	916
	10. 24 Parganas	1966, 68 & 69	3	860
	11. Purulia	1964, 68	2	447
	12. West Dinajpur	1961	1	285
			24	8728

Table–XII

Food Consumption Pattern in different States of India (1960–69)

(Grams per person per day)

	Number of surveys	Rice	Wheat	Millets & other cereals	Total cereals	Pulses	Leafy vege-tables	Other vege-tables	Fruits	Fats & oils	Milk & Milk products	Meat Fish & Egg	Sugar & Jaggery	Condi-ments
Andhra Pradesh	111	335	10	121	466	29	9	34	1	11	65	11	9	32
Bihar	62	267	97	89	453	42	21	69	3	8	20	8	5	3
Gujarat	1	73	13	339	425	43	26	49	—	5	7	6	6	5
Jammu & Kashmir	3	212	18	359	589	8	163	63	—	10	14	3	12	14
Kerala	37	296	38	7	341	24	8	170	36	7	52	52	18	29
Madhya Pradesh	2	37	356	259	652	55	4	41	86	19	138	11	38	27
Maharashtra	9	241	61	196	498	33	17	62	9	15	49	27	31	7
Mysore	45	N.A	N.A	N.A	607	26	9	19	1	2	56	3	N.A	12
Punjab	22	42	378	99	519	35	44	93	13	17	317	7	97	2
Rajasthan	31	8	183	266	457	43	10	30	1	34	94	2	16	19
Tamil Nadu	114	288	11	57	356	16	8	52	5	6	26	13	6	20
Uttar Pradesh	113	161	154	133	448	55	38	97	21	16	91	8	32	10
West Bengal	24	336	86	—	422	30	51	112	3	17	52	30	22	7
All India	574	241	84	109	434	34	21	71	10	12	69	14	19	18
Suggested allowances for a typical balanced diet	—	—	—	—	370	70	110	125	37	38	180	35	40	—

Sources of data : 1. Report of Nutrition work done in States – 1960 to 1969, National Institute of Nutrition, I.C.M.R., Hyderabad.

2. Recommended daily allowances of nutrients and balanced diets—Recommended by Nutrition Expert Group – I.C.M R. Spl. Report Series No. 60.

3. Annual Report on Nutrition activities carried out in the States and Union Territories for the year 1968, compiled by Nutrition cell of the Directorate General of Health Services, New Delhi.

Table XIII

Average intake of nutrients in different States in India

(per caput per day 1960–69)

State	Calories	Proteins (gm)		Total fat (gm)
		Total	Animal	
Andhra Pradesh	2040	53	5	21
Bihar	1865	56	3	13
Gujarat	1612	54	2	13
Jammu & Kashmir	2265	63	1	25
Kerala	1842	47	11	25
Madhya Pradesh	2779	98	7	45
Maharashtra	2281	68	6	30
Mysore	2220	66	3	18
Punjab	2832	84	16	52
Rajasthan	2044	77	5	34
Tamil Nadu	1498	36	4	12
Uttar Pradesh	2307	66	5	32
West Bengal	1927	48	7	24
ALL INDIA	1985	55	6	24
Suggested allowances	2400	44	—	—

Sources of data: 1. Reports of Nutrition work done in States 1968–69, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

2. Recommended daily allowances of nutrients and balanced diets – recommended by the Nutrition Expert Group – I. C. M. R. (1968).

3. Annual Report on Nutrition activities carried out in the States and Union territories for the year 1968, compiled by Nutrition cell of the Directorate General of Health Services, New Delhi.

Table XIV

Diet and Nutrient intake of Preschool Children

(per child per day)

Particulars	Intake	Recommended allowances	
		Vegetarian	Non-vegetarian
Foodstuffs (gms)			
Cereals	147	175	175
Pulses	16	55	45
Milk	80	275	200
Oils and fats	4	23	23
Leafy vegetables	4	63	63
Other vegetables	14	40	40
Sugar and jaggery	5	35	35
Flesh foods	4	—	30
Fruits	7	50	50
Snacks	5	—	—
Nutrients			
Proteins (gms)	19.5	19.3	
Calories	758	1275	
Vitamin A (I.U.)	572	1050	
Iron (mg.)	8 6	17.5	
Calcium (mg.)	230	450	

Sources of data: I. ICMR Studies on diets of preschool children:

1. National Institute of Nutrition, Hyderabad.
2. Christian Medical College, Vellore.

II. Recommended daily allowances of nutrients and balanced diets.
Nutrition Expert Group, ICMR – 1968. Spl. Report Ser. No. 60, P. 84 and 90.

Table XV

Protein and Calorie intake of preschool children by economic status

(Per child per day)

Age (in years)	Urban areas				Rural areas					
	Highly privileged societies		Slum areas		Around Poona[1]		Around Hyderabad[2]		Around Vellore[3]	
	a*	b**	a*	b**	a*	b**	a*	b**	a*	b**
1 – 2	25.2	1025	13.1	480	12.5	446	13.7	572	11.3	414
2 – 3	34.3	1375	19.1	850	21.0	753	19.1	733	19.5	751
3 – 4	39.2	1512	20.5	940	24.6	968	22.7	854	22.6	911
4 – 5	42.6	1766	25.2	1010	29.2	1074	22.9	851	23.9	979
1 – 5	35.3	1419	19.5	820	21.8	810	19.6	752	19.4	764

a* Proteins (gms.)
b** Calories

Sources of data :

1. M. V. Phadke and H. D. Kulkarni, 1971, Growth and Development in the under-privileged sections in Bombay Area, Proc. Nut. Soc. of India, No. 10. Nutrition, Growth and Development, pp. 164–66.
2. National Institute of Nutrition, ICMR Studies on Pre-school children in the rural areas around Hyderabad.
3. ICMR Studies on Pre-school children in the rural areas around Vellore–Christian Medical College, Vellore.

Table XVI

Protein and Calorie intake of school children in Hyderabad

(Per child per day)

Age in years	Calories			Proteins (gms)		
	Low economic groups	High economic groups (Public schools)	ICMR 1968 suggested requirements	Low economic groups	High economic groups (Public schools)	ICMR 1968 suggested requirements
7 – 9	1429	2186	1800	37.0	67.8	33.0
9 – 11	1411	2343	1950	36.5	62.1	37.0
11 – 13	1292	2823	2300	34.5	72.2	41.0
13 – 14	1374	2585	2300	35.5	75.5	52.0
All age groups	1376	2485	2090	35.9	69.4	41.0

Sources of data: 1. NIN, ICMR, Hyderabad, School Children Studies (1963).

2. NIN, ICMR, Hyderabad, Public School Children studies (1970–71).

3. ICMR Dietary Allowances for Indians (1968).

Table XVII

Frequency Distribution of Calories and Proteins in diets provided in residential hostels

Level of calories in the diets	Boys' Hostels	Girls' Hostels	Level of protein in the diets (gm.)	Boys' Hostels	Girls' Hostels
	Percent of diets			Percent of diets	
< 1,500	2.4	6.0	< 30	2.0	3.0
1,500–2,100	15.7	8.9	30–45	4.8	17.2
2,100–2,700	21.4	23.1	45–60	23.8	28.4
2,700–3,150	27.0	14.9	60–75	25.0	16.4
3,150–3,600	16.5	17.2	75–93	23.8	12.7
3,600–4,400	8.1	11.2	93–100	5.2	8.9
4,400–5,000	4.8	11.2	100–120	8.1	6.7
> 5,000	4.1	7.5	> 120	7.3	6.7

Source of data : Nageswara Rao, C., A survey of diets in residential hostels in India., Ind. Jour. Med. Res : **54**, 475, 1966.

Table XVIII

Pattern of food consumption in rural, urban and metropolitan areas of Maharashtra

[Per caput per day (gms.)]

Food items	Metro	Urban	Rural
Rice	88	79	40
Wheat	176	151	45
Jowar	4	48	244
Other cereals & millets	10	11	63
Total cereals	278	289	392
Total pulses	55	45	47
Fats & oils	32	23	7
Sugar	24	21	11
Milk	195	143	66
Green vegetables	60	39	20

Source of data: M. Mathias, Hindustan Lever Research Centre, Bombay, India (1971), First Asian Congress of Nutrition, Special Reports, Symposia 2-B, Nutrition Society of India, National Institute of Nutrition, Hyderabad.

Table XIX

Dietary habits in rural, urban and metropolitan areas of Maharashtra

Food items	Percentage of families consuming		
	Metro	Urban	Rural
Wheat	84	74	21
Jowar	3	25	64
Egg	11	7	0.4
Milk	39	25	13
Tea	97	97	82
Coffee	14	11	2
Bread	40	22	1
Biscuits	19	11	1

Source of data: M. Mathias, 1st Asian Congress of Nutrition, Special reports, Symposia 2-B, Nutrition Society of India, National Institute of Nutrition, Hyderabad.

Table XX

Pattern of food cousumption in rural and urban areas around Hyderabad

	Urban Hyderabad	Rural areas around Hyderabad	Requirements
No. surveyed	39	23	—
	Per caput daily intake in grams		
Cereals	291	451	370
Pulses	45	10	70
Vegetables : Leafy	31	6	110
Others	147	79	125
Milk & milk products	225	67	180
Flesh foods	7 } 12	2 } 4	35
Eggs	5 }	2 }	
Fruits	7	—	37
Sugar & jaggery	27	12	40
Fats & oils	24	11	38
Others	26	24	—

Source of data : B. V. S. Thimmayamma & Parvathi Rau (1971) Diets of rural and urban populations, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

Table XXI

Consumption Pattern of Foodstuffs by Tribal Population Groups

(Per caput per day in grams)

Name of the tribe surveyed	Name of the State	Rice	Wheat	Millets and other cereals	Total cereals	Pulses	Leafy veg.	Other veg.	Flesh foods	Fats and oils	Milk and pro-ducts	Fruits	Others
1. Abors	Assam	615	—	7	622	11	42	33	33	—	—	14	—
2. Dublas	Gujarat	33	—	258	291	5	2	49	—	2	21	—	—
3. Dublas	Maharashtra	400	—	11	411	11	—	25	2	2	2	—	—
4. Malpahari	Bihar	421	—	79	500	23	19	9	2	—	—	—	—
5. Mompas	NEFA	109	13	336	458	10	36	9	—	2	19	—	—
6. Onges	Andamans	—	—	—	—	—	—	240	725	—	—	—	145 (honey)
7. Santhal	Bihar	481	—	23	504	23	6	26	4	3	—	—	—
8. Sauria Pahari	Bihar	89	—	495	584	35	11	16	7	2	—	—	—
9. Uralis & Kanikkars	Kerala	166	—	—	166	25	9	886	—	5	—	11	—
10. Warlis	Maharashtra	330	—	14	344	9	6	23	8	2	1	2	—

Sources of data:

1. P. N. Sen Gupta (1960) "Dietaries of Primitive Tribes" from THE ADIVASIS, Publication Division, Ministry of Information & Broadcasting, Govt. of India, p. 86.
2. Report of the Department of Nutrition for the year 1959, Government of Maharashtra (1960), p. 12.
3. S. B. Lal (1954), Ind. Jour. Med. Res., **42**, 167.
4. National Institute of Nutrition, Hyderabad (1965 annual report).

Table XXII

Protein and Calorie content of the diets of Tribal Population Groups

Name of the tribe surveyed	Name of the State	Nutrients per caput per day	
		Proteins (gms)	Calories
Abors	Assam	69.5	2430
Dublas	Gujarat ...	35.1	1210
Dublas	Maharashtra ...	40.6	1540
Irulas	Tamil Nadu ...	26.5	1310
Kotas	Tamil Nadu ...	50.3	1870
Kurumbas	Tamil Nadu ...	36.9	1690
Malpahari	Bihar ...	51.3	1850
Mompas	NEFA ...	53.3	2530
Nicobarese	Great Nicobar islands (Union territories) ...	108.0	2532
Onges	Andamans (Union territories) ..	136.5	2620
Santhal	Bihar ...	50.6	1900
Sauria Pahari	Bihar ...	74.2	2210
Todas	Tamil Nadu ...	48.4	2410
Uralis and Kanikkars ...	Kerala ...	30.1	1830
Warlis	Maharashtra ...	36.1	1350

Sources of data:

1. P. N. Sen Gupta (1960) "Dietaries of Primitive Tribes" from THE ADIVASIS, Publications Division, Ministry of Information & Broadcasting, Government of India, p. 86.
2. Report of the Dept. of Nutrition for the year 1959, Government of Maharashtra, Bombay (1960) p. 12.
3. National Institute of Nutrition, ICMR, Hyderabad, 1965 annual report.
4. J. K. Roy & S. C. Roy (1969), Ind. Jour. Med. Res. **57**, 5 (5); S. Bose (1964) "Economy of Onges of Little Andamans", Man in India, **44**, 4.

Table XXIII

Diets of coal fillers of Singareni Collieries

Details	Intake per head per day	Recommended allowances per head per day	
		Vegetarian	Non-vegetarian
Food items (gms.):			
Cereals and millets ...	667	650	650
Pulses ...	59	80	65
Flesh foods ...	57	—	30
Egg ...	2	—	30
Milk and milk products ...	71	200	100
Fats and oils ...	25	50	50
Leafy vegetables ...	12	125	125
Other vegetables ...	22	100	100
Roots and tubers ...	53	100	100
Fruits ...	—	30	30
Sugar and jaggery ...	19	55	55
Nuts and others ...	24	50	50
Toddy ...	76	—	—
Nutrients:			
Proteins (gms.) ...			
Total ...	81	55	
Animal ...	14	—	
Calories ...	3100	3900	
Iron (mg.) ...	30	20	
Calcium (mg.) ...	444	450	

Source of data : 1. Nutrition and Working efficiency in coal miners at Kothagudem area in Andhra Pradesh, National Institute of Nutrition, Hyderabad.

2. ICMR Special Report series No. 60, Dietary allowances for Indians, 1968.

Table XXIV

Protein and Calorie intake in the drought affected areas of Andhra Pradesh and Bihar

Degree of drought in the selected areas	Andhra Pradesh (1965–66)		Bihar (1966–67)	
	Proteins (gm)	Calories	Proteins (gm)	Calories
	Per caput intake per day			
Severe	20.0	580	44.0	1450
Moderate	29.0	1080	47.0	1510
Mild	46.0	1820	73.0	2470

Sources of data :— 1. Swaminathan M.C., Visweswara Rao, K., and Hanumantha Rao, D. (1967) "Food and Nutrition situation in the drought affected areas of Andhra Pradesh" Ind. Jour. Med. Res. **55**, p. 768.

2. Swaminathan M. C., Visweswara Rao, K., and Hanumantha Rao, D. (1969) "Food and Nutrition situation in the drought affected areas of Bihar" J. Nutr. & Dietet. **6**, p. 209.

Table XXV

Population of India and a few other Nations (1970)

(In millions)

Name of the Country	Total Population
India	541.4
Afghanistan	17.6
Ceylon	13.4
China (Mainland)	742.0
Japan	101.5
Indonesia	118 3
Pakistan	120.6
Philippines	38 4
Thailand	36.3
United Arab Republic	34.5
United Kingdom	55.1
United States of America	207.6
World	3659.0

Source: 1. United Nations Population Studies No. 41, World Population Prospects, pp 23; 140–143, published in 1966, U. N., New York.

2. Asian Agriculture, November, 1970. Vol. I, No. 2, p. 77.

Table XXVI

Net Food Supplies and their Nutrient content in different countries

(Gms. per caput per day)

Name of the country	Cereals	Potatoes and other starchy foods	Sugar and sweets	Pulses and nuts	Vege-tables	Fruits	Meat	Eggs	Fish	Milk	Fats and oils	Calo-ries	Proteins	
													Total	Animal
1. India (1970)	395	44	46	51	46	46	4	1	7	108	10	1945	49.0	5.5
2. Afghanistan (1966)	441	—	397	1	78	37	31	2	—	88	8	1950	56.4	7.7
3. Ceylon (1967)	373	78	57	79	106	26	5	5	16	46	10	2170	48.0	8.3
4. China (mainland) (1967)	387	247	10	39	82	82	47	8	10	9	7	2050	57.0	12.2
5. Indonesia (1961–63)	350	329	19	22	—	41	14	3	13	2	13	1980	38 2	4.5
6. Japan (1967)	380	188	57	45	362	121	37	31	84	118	23	2460	74.7	28.2
7. Pakistan (1966-67)	429	38	51	19	43	128	11	1	5	208	17	2230	51.5	11.2
8. Philippines (1967)	342	98	46	23	76	123	48	6	45	40	9	2000	50 5	18.7
9. Thailand (1963–65)	412	91	29	52	108	128	28	9	19	13	4	2140	46.9	9.9
10. United Arab Republic (1965–66)	551	38	49	35	292	230	36	4	9	122	19	2810	80.8	11.8
11. United Kingdom (1967–68)	200	283	135	16	173	139	204	44	26	600	60	3150	87.5	53.8
12. United States of America (1967)	177	133	133	23	269	239	295	51	17	665	61	3200	95 6	68.6

Sources of data:

1. F. A. O. Production Year Book 1968 pp. 433 – 456.
2. Pitamber Pant, Planning Commmission, Government of India, New Delhi – Food, Nutrition, Population, and Economic Development, First Asian Congress of Nutrition, Symposium 3–A, Hyderabad, 1971.
3. Directorate of Economics & Statistics, Ministry of Food, Agriculture, Community Development and Co-operation, Government of India, New Delhi, 1968 (Private communication).
4. P. V. Sukhatme & D. Basu (1971). The present pattern of production and availability of Foods in Asia, First Asian Congress of Nutrition, Symposium 1–A, 1971.

Table XXVII

Percentage of total incomes spent on food in India, Japan and United States of America

Country	Percentage of income spent on food [1]	Per caput expenditure on food per day[1] (Rupees)	Per caput Calorie intake per day[2]
India ...	57.0	0.75	1945
Japan	36.0	1.95	2460
United States of America ...	19.0	7.95	3200

Source of data: 1. Brown, L. R. (1962), Food consumption and expenditure in India, Japan & U. S. A., U. S. Dept. Agric., E. R. S. Foreign-42, pp. ii+15.

2. F A. O. Production Year Book, 1968.